

A treatise on gout and rheumatic gout.

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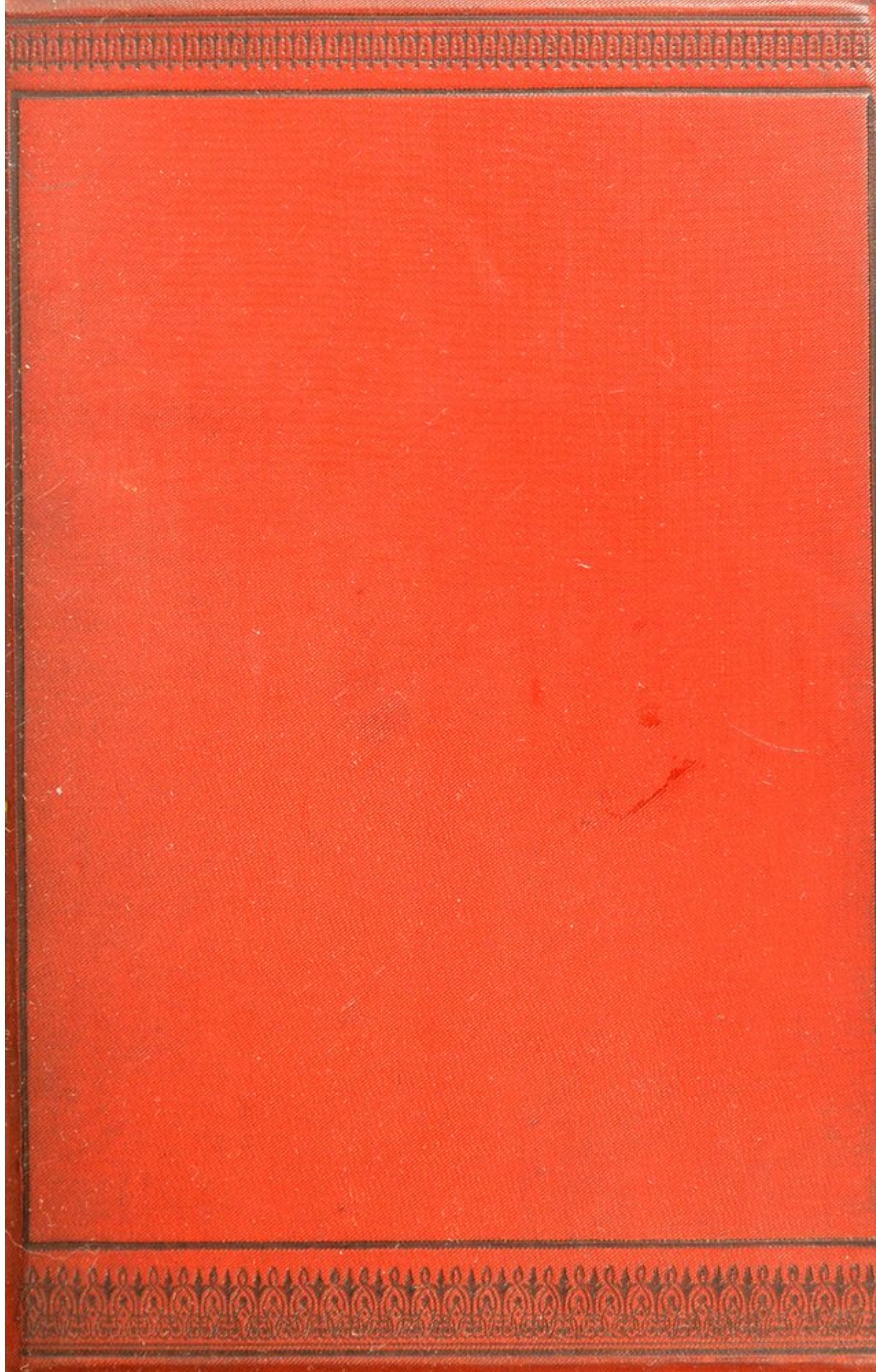
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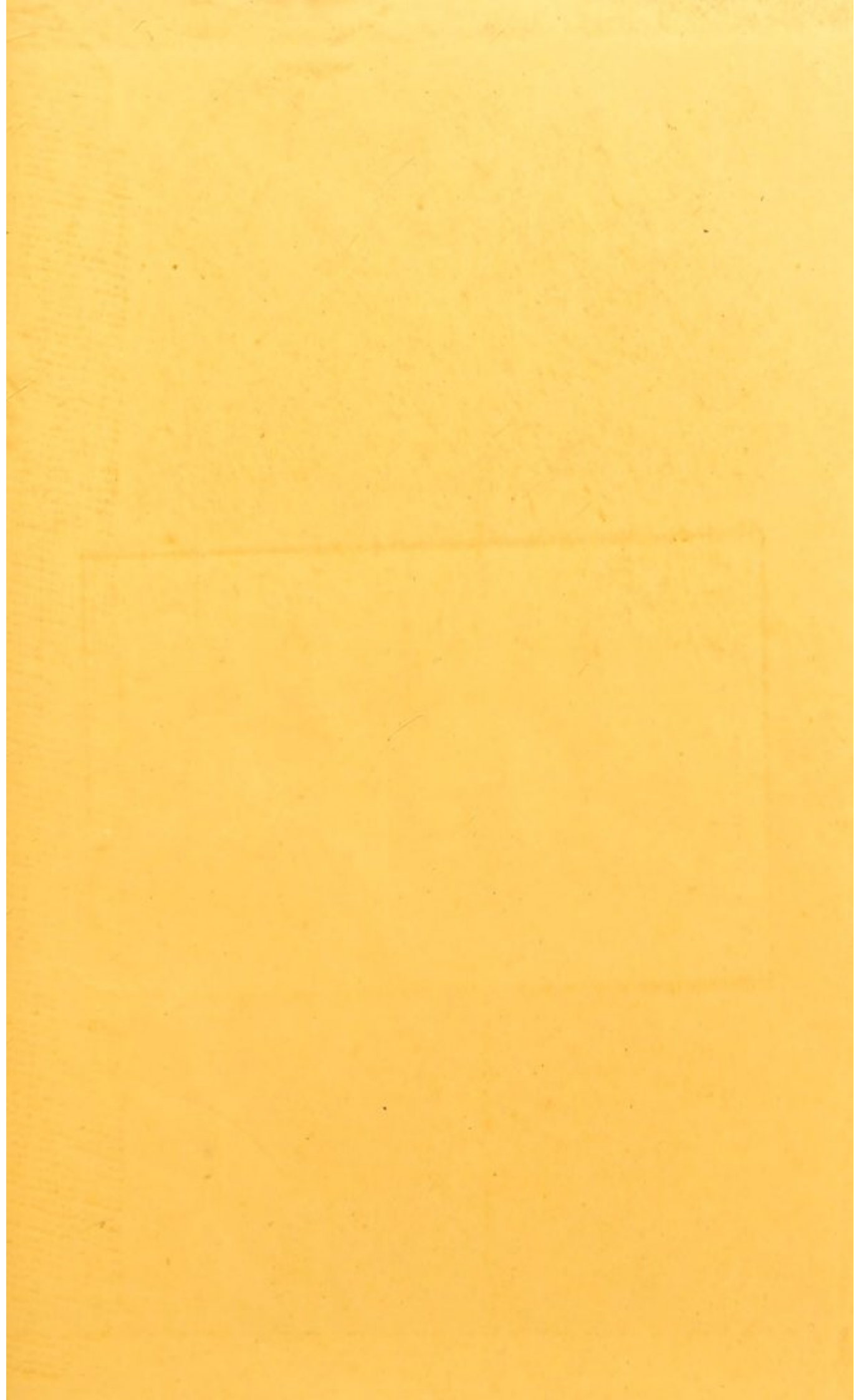
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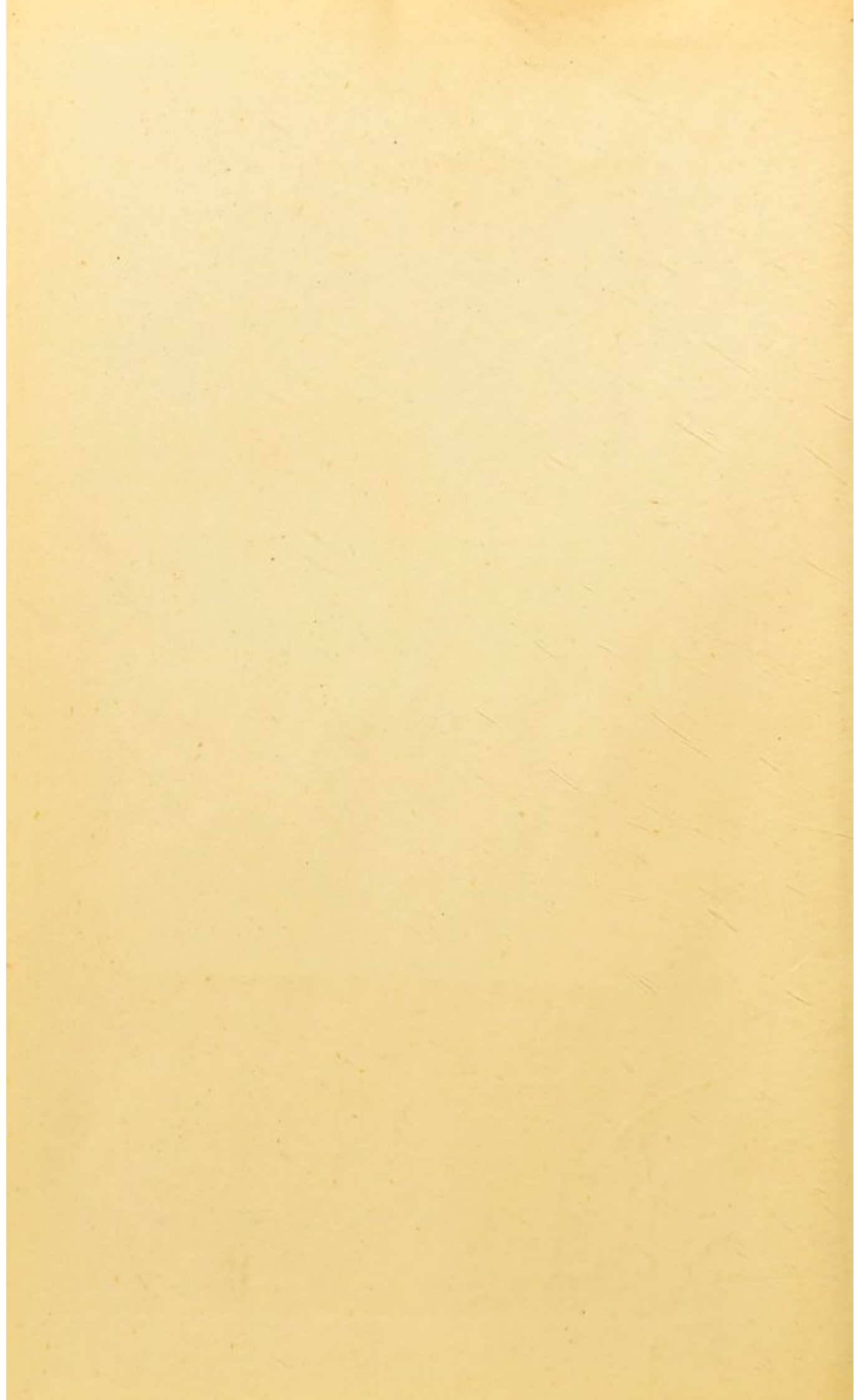
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G O U T

AND

R H E U M A T I C G O U T.



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A  
TREATISE  
ON  
GOUT  
AND  
RHEUMATIC GOUT.

BY  
AUSTIN MELDON,

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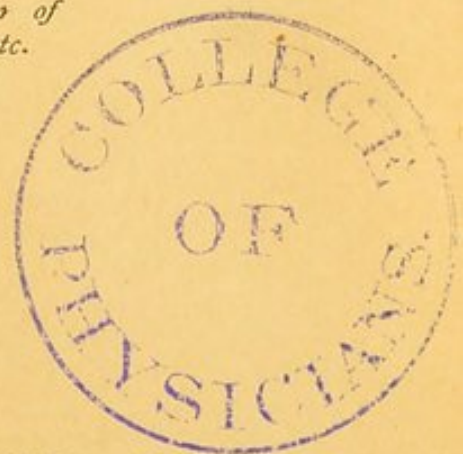
TENTH EDITION.

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1886.

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To

SIR ANDREW CLARK, BART., M.D.,

This Volume is Dedicated,

AS A TOKEN OF GREAT

ADMIRATION OF HIS EXTRAORDINARY

GENIUS AND TALENTS, WHICH HAVE MOST JUSTLY

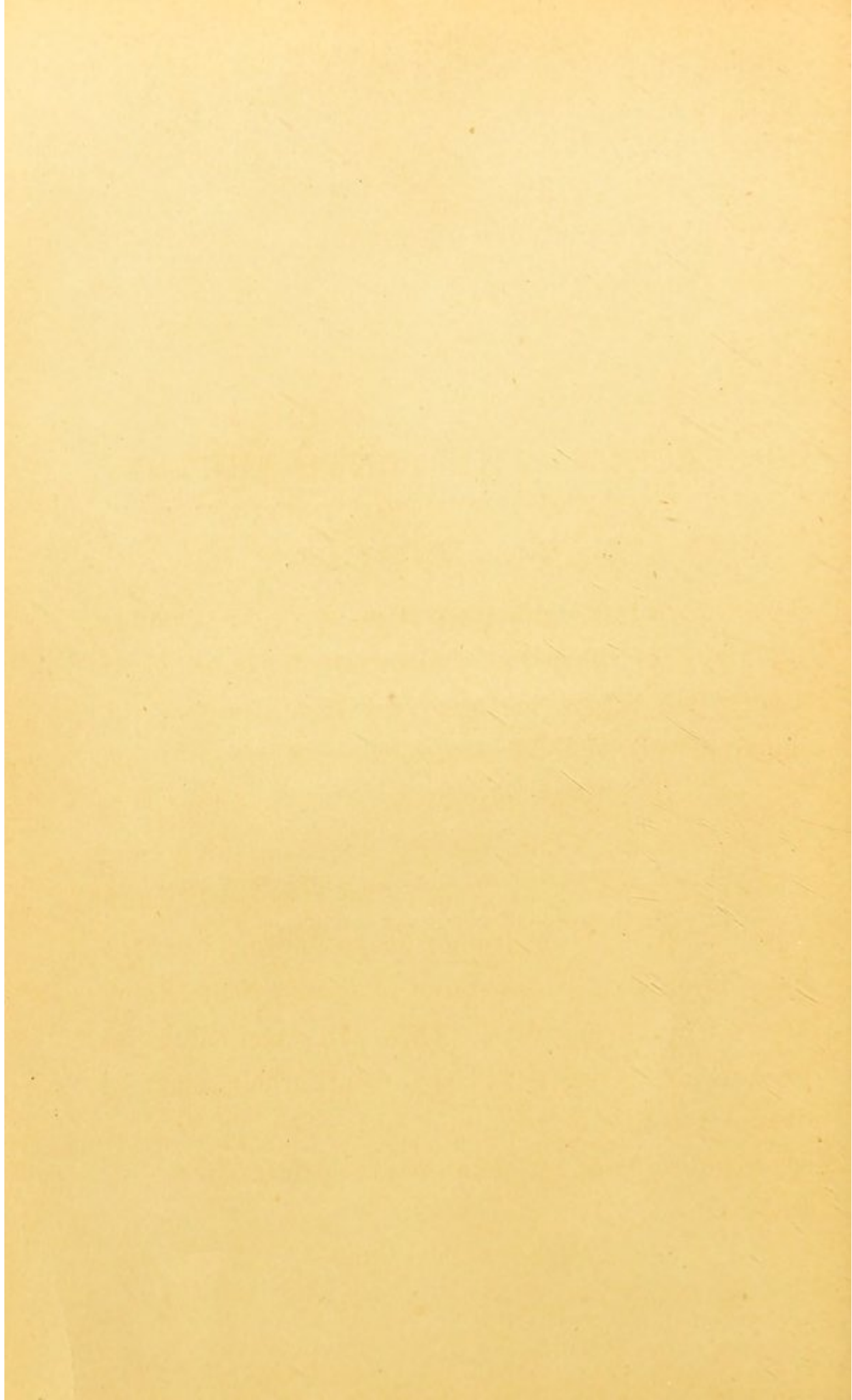
PLACED HIM IN HIS PRESENT PROUD POSITION ;

AS WELL AS AN ACKNOWLEDGMENT

OF THE

CLEAR LIGHT THROWN BY HIM ON SEVERAL OF THE AUTHOR'S

MOST DIFFICULT AND OBSCURE CASES.



## PREFACE TO THE TENTH EDITION.



TWENTY years of practice has in no degree changed my views of the pathology and treatment of Gout. Every year which increased my experience of this important disease only confirmed me in the belief that my explanation of the phenomena of Gout published in 1871 is correct. I have thought it well in the present edition to separate the portion of this work which refers to Rheumatism, and the space thus saved I have devoted to the narration of cases which I think are worthy of publication. These are principally cases of Anomalous and Misplaced Gout, which class of disease I believe is too often overlooked. I hope at some future date to publish a separate work on Rheumatism.

I take this opportunity of thanking my reviewers, both at home and abroad, for the complimentary way in which they have reviewed the former editions of this book.

15, MERRION SQUARE NORTH,  
DUBLIN.

*December, 1885.*

## PREFACE TO THE FIRST EDITION.



A SINCERE desire of adding to the pathology and treatment of Gout and Rheumatism has induced me to lay my views concerning the nature of these two important diseases before my professional brethren.

From my earliest acquaintance with medicine, I have taken great interest in both these affections, and have carefully noted every case of Rheumatism and Gout I have met with, both in hospital and private practice, as well as those I have witnessed in the Continental hospitals. Thus I have collected some five hundred cases.

In my introductory chapters, as also in that on the Pathology, I have given what I consider to be the true explanation of the phenomena witnessed in both these diseases.

Later in the work, I have endeavoured to prove that every case of both Gout and Rheumatism, wherein the vital organs remain undiseased, is curable, no matter in what stage it is at the time the patient comes under treatment.

It has often been doubted whether uric acid can be eliminated by the skin; but if a large quantity of perspiration be collected from a gouty subject, and, after evaporation, tested, abundance of this acid may be obtained. This experiment I have repeatedly made with success. A detailed account thereof will be found in the chapter on the Treatment of Regular Gout.

In conclusion, I have but to express a hope that those who honour this work with a perusal, will find some interest at least in the cases which are therein narrated.

15, MERRION SQUARE NORTH,  
DUBLIN.

*January, 1873.*

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# G O U T.\*



## CHAPTER I.

### *INTRODUCTION TO THE HISTORY AND PATHOLOGY.*

FROM the earliest records of medicine, gout has been known as a disease which follows in the track of wealth and power. It has ever been the scourge of the rich and the opulent. Often has it stepped in between one who has well-nigh attained the height of his ambition and the happiness which he seems about to enjoy, snatching the cup from his very lips, dashing all his hopes to the ground, and rendering his life devoid of comfort and replete with suffering.

Many, when in health, look upon gout as a disease more to be coveted than to be avoided, one which in

\* Syn. Ποδαγρα, χειραγρα, γοναγρα (according to whether the part affected was the foot, hand, or knee), Goutte (French), Gicht (German), Gotta (Italian), Gota (Spanish).

itself is a mark of honourable distinction. But there are few, when writhing under this agonizing malady, who do not regret the youthful errors and self-indulgence which have contributed in no small degree to bring them such an unwelcome visitor. Some endeavour to find consolation in the idea that gout not only protects them from other diseases, but actually prolongs life. This, however, is an error, which a glance at the causes of mortality in the United Kingdom will soon dispel. About six thousand persons have died directly from gout within the last twenty years, and ten times that number would not include all those whose death is due indirectly to the affection. Few, in fact, neglect gout in its earliest stages who do not perish sooner or later, either directly from the disease, or from some other affection which owes its mortal character to the gouty poison. It may, therefore, be regarded as one of the most important diseases to which human nature is subject.

It is now more than two thousand years since Hippocrates first described gout, and since his time every medical writer has devoted much space to its consideration. Many, too, have been the hypotheses concerning its nature; and yet it must be confessed

that the progress made in the course of those two thousand years has been but very slight. Hippocrates believed the disease to be due to the retention in the blood of some natural humour which ought to have been eliminated. He consequently recommended free purgation, and thought it curable if treated by some "skilful physician" before concretions had formed. At the present time, it is the opinion of most medical men that the disease is caused by the retention in the blood of uric acid or urate of soda, and all recent treatment has for its object the elimination thereof through some of the natural channels, by purging, by diaphoresis, or by diuresis. Thus it may be seen that the advance made in the course of so many centuries has been confined to the discovery of the particular matter retained in the blood of the gouty. How far this is really the cause of gout, I hope hereafter to show.

It may be thought that, although the pathology of the disease has progressed so little, we are much in advance of our forefathers in regard to treatment. Yet this is not so certain. All the most eminent medical writers regard gout as a curable disease in its earlier stages; and there is much reason to suppose that the ancients were acquainted with colchicum, or some

kindred plant. Of this, however, more anon. At present my purpose is briefly to review the history of the disease and the various theories concerning its nature, which have at different times found favour with the medical world.

All the ancients followed Hippocrates and Galen in their humoral theory, differing only in the particular humour which was supposed to be retained; some looking on it as phlegm, others as bile, and so forth. In short, advocates were found for every natural secretion or constituent of the body. In reading these ancient works, one is forcibly struck with the intimate knowledge displayed concerning the disease, and with the vivid descriptions of its attacks, showing beyond doubt that it was even then a common malady. Demetrius Pepagomenos, who wrote in the sixth century, believed that it was caused by imperfect digestion, deficient excretion, retention of natural secretion, over-indulgence in venerea and the like, and he recommended the use of venesection in the earlier stages of the disorder, followed by emetics and purging, thereby eliminating the undue accumulation.

Alexander Trallianus, who flourished in the same century, contributed a good deal to the literature of

gout. Although some of his explanations as to the causes of this disease are, in our present knowledge of pathology, quite absurd, yet his remarks on the treatment are suggestive of much practical knowledge. He recommended blood-letting, forbade blood-producing food, and all alcoholic stimulants. He ordered purgatives, especially *Hermodactylus*, a kindred plant to *colchicum*.

The services of this remedy are much lauded by many other ancient authors.

In the seventeenth century we received some valuable writings from the hand of one who was himself a martyr to the disease. It is to be regretted that the severity of the attacks prevented this able physician leaving much which he desired to record. Sydenham, who was born in 1624, has left us such a lucid account of the disease, that his words have found place in most works on gout.

Many of his hypothetical conclusions, too, have been verified. Though, from want of a better explanation, he adopted the humoral theory, his writings are full of doubts and suggestions as to its nature. In one of his letters, after he had finished his writings on this subject, he says,—“By applying my mind to the utmost, and

by bringing all my power of thought on the subject, I brought on such a fit of gout as I had never before suffered from, so that the fact itself warned me to lay aside, even against my will, such lucubrations ;” adding, “*whenever I return to my work, my gout returns to me.*”

Cullen, who was born in the early part of the eighteenth century, was the first who openly avowed his disbelief in the humoral theory. He regarded gout as an affection *entirely* of the nervous system, but, as he denied the presence of *any materies morbi* in the blood, he had few followers. It was difficult to explain all the phenomena of the disease in this manner, and, besides, the treatment shown in his aphorism, “the common practice of committing a person to patience and flannel alone is established on the best foundation,” was not very encouraging or successful. Cullen’s idea soon therefore passed into oblivion, to be replaced by the reappearance of the ancient humoral doctrine. This lasted until Dr. Garrod’s experiments proved the existence of uric acid in the blood of the gouty, which substance had been previously, in 1797, detected by Dr. Wollaston in the joints.

! The late Dr. Gairdner believed gout to be due

entirely to venous congestion, but, with the exception of a few of *his* followers, both here and in Germany, most medical men have adopted the uric acid theory.

Dr. Garrod, the originator of the latter explanation, believes that urea and uric acid are separately eliminated by the kidneys, and that one of these may be excreted while the organs have lost the power of eliminating the other. Gout he considers partly due to the temporary or permanent loss of the uric-acid-excreting functions of the kidneys. The premonitory symptoms, and those which constitute paroxysms, he regards as being produced by an excess of uric acid in the blood, and an effort made by nature to expel the *materies morbi*. He believes that uric acid is always present, as urate of soda, in abnormal quantities in the blood, prior to and during an attack of gout. Dr. Garrod, however, now admits that it may exist in *small* quantities without producing any inflammatory symptoms. He states that true gouty inflammations are always accompanied by a deposit of urate of soda, and that inflammation tends to destroy this salt, not only in the part affected, but also in the blood generally.

Dr. Garrod's opinions have gained almost universal assent. True, many medical men do not believe with



him that the kidneys are the organs whose functional impairment alone causes this undue accumulation, but refer it to derangement of the stomach, liver, or skin. Yet it seems all but an acknowledged fact that the principle of the doctrine is correct.

Nevertheless, I have not the slightest doubt that every practical physician will agree with me, that the presence of this acid in the blood cannot be the sole cause of this distressing malady. It would be a satisfactory explanation, were it not that there are many persons whose blood is loaded with uric acid, and who are in perfect health. In Ireland gout is one of the rarest affections met with in hospital practice, yet I have repeatedly found the blood of otherwise healthy men, lying in our accident wards, loaded with uric acid. For many years past my own blood has been in this condition, although I have never had the least symptom of the disease. Dr. Gairdner found urates in the blood of a boy four years of age, in whose family gout had never been known. It is therefore necessary to find another link to complete the chain. The material for this, I think, is to be found in the state of the nervous system.

The predisposing cause of gout is undoubtedly the

presence in the blood of uric acid and soda in some form. Nerve force, I believe, when in a healthy condition, preserves these two in fluid form, separately, in a state in which they may be eliminated by the kidneys, skin, or bowels. As soon, however, as this nervous influence is removed or lessened, these two unite. Thus, when blood or serum is taken from gouty patients the uric acid and soda, no longer retained separate by nerve force, unite and crystallize as urate of soda. In gout this union takes place in the tissues, usually in those most removed from the brain and centre of circulation.

The minute granules thus formed—acting as foreign bodies—irritate the sympathetic vaso-motor nerves of the part. The pain so caused soon rouses the patient and produces very temporary anæmia, to be quickly followed by active local *hyperæmia*, or what is generally termed active congestion. This soon gives place to a retarded flow of blood through the veins and capillaries, and the condition of venous congestion and stasis becomes established. From intra-vascular pressure there is abundant exudation from the distended vessels, but the fluid is yet well filtered by the vessels themselves, and few, if any, white corpuscles migrate. The

effused liquid soon re-dissolves the little granules of urate of soda, and the pain is quickly relieved. The damage done to the tissues being temporary, and the source of irritation being now removed, the parts gradually recover from the condition of low vitality into which they were thrown, the vessels recover themselves, and the circulation gradually returns to its normal condition. The effused serum and any white corpuscles which have escaped into the tissues are rapidly re-absorbed by the lymphatics. The part is then restored to its normal condition, and no ill effects are left behind. From the first symptoms the irritation and congestion excite the nervous system, and the deposit is for the time arrested. Often, however, depressing reaction produces a second, a third, or even a fourth attack, and then nature, generally through the kidneys and skin, gradually removes the uric acid from the blood, until at length all trace of the fit passes away.

The time that an attack generally commences is at night, when both nerve force and circulation are weakest; the part, too, most usually attacked—the great toe—favours my theory, and I need scarcely mention the numerous instances recorded where gout has been brought on by great nervous depression.

Columbus never suffered from the disease until disappointment, and the ingratitude that he met with, depressed his whole nervous system. Hundreds of similar cases are familiar to all. Politicians and speculators are particularly liable to gout. England has seldom had a Prime Minister who has not suffered from this disease, and those who have been fortunate enough to have escaped it were men who took periods of perfect repose from mental work, and indulged in much outdoor exercise.

The action of colchicum, I believe, furnishes me with one more proof. By an experiment that may be repeated by anyone at will, I have satisfied myself that, in moderate doses, it is a nerve stimulant. I have repeatedly, whilst fasting, and in perfect health, taken doses of from ten to fifteen minims of tincture of the seeds of colchicum. Its first effect was to produce slight nausea, and then increased action of all the organs; the skin became moist, the secretion of the kidneys and liver was increased, and the mental faculties were invigorated. On some occasions, after even a single dose, I have experienced severe palpitation from this experiment.

All these results can only be produced by a nerve

stimulant. This is the only way, too, in which its apparent magical influence on a seizure of gout can be explained. It also accounts for the injury to the heart and other organs which may be produced by its too frequent use.

*Division.*—All the varieties of gout described by other authors I regard as but stages or degrees of the disease.

Premonitory symptoms usually occur while the so-called uric-acid diathesis is being developed. At this period, dyspepsia, flatulency, hiccup, constipation, “nervous” pains, cramps, palpitations, and the like, are experienced.

When a certain amount of the *materies morbi* has accumulated in the blood, and when the nervous depression is but transitory, pains more or less severe are experienced in different parts of the body. Inflammation of the tonsils, œdematous condition of the uvula and neighbouring parts, loss of voice, the milder attack of gouty bronchitis, headaches, and such-like affections, also mark this variety, which is known as Anomalous or Irregular gout. If, when the nervous depression is severe and prolonged, while but little uric acid and soda is retained in the blood, a muscle or joint becomes affected, the inflammation, never very severe, is from

the first sub-acute, lasts a considerable time, and soon returns. This is what is usually termed Atonic, or Poor Man's gout. If both the predisposing and exciting cause are more severe, that is to say, if there be a still further increase of uric acid and soda in the blood, and if at the same time there be much nervous depression, some important organ may become engaged. This is termed Misplaced gout, and includes severe gouty affections of the head, eyes, ears, pleura, heart, urinary organs, etc. When both the predisposing and exciting causes are at their maximum severity, the affection is generally developed in the toe or some other joint; the disease in the earlier attacks showing a predilection for the smaller joints. This is termed Regular or Acute gout. Should, however, the inflammation suddenly leave a joint and attack some organ, it is called Retrocedent gout.

If the disease remains lurking about a joint for a considerable time after an attack of regular gout, as shown by swelling and tenderness, or if there be no regular paroxysms, but some symptom always present, it is known as Chronic gout.

Thus it may be seen that all these varieties are but, as it were, stages of the disease.

## CHAPTER II.

*PREMONITORY SYMPTOMS—ANOMALOUS OR  
IRREGULAR GOUT.*

SOMETIMES gout attacks its victims when apparently in the enjoyment of perfect health. In such cases the premonitory symptoms are so trivial that they have not attracted the patient's attention. More usually, however, the affection is preceded by more or less well-marked premonitions of the disease.

Dyspepsia is the most usual forerunner of gout. Sometimes it is slight, at other times it is severe and constant. As the gouty diathesis becomes developed, persons who have been long accustomed to indulge the appetite in everything which fancy suggested, find that they can no longer do so with impunity. Many things now disagree with them, produce indigestion, turn acid, or, as it is popularly termed, "sour," on the stomach, and they are obliged to use a certain

degree of caution as to what they either eat or drink.

At the same time there is frequently a craving for food, with a persistent sense of uneasiness and emptiness. Nausea, flatulence and eructation, with a sensation of fulness, are at times the first symptoms. These are often only complained of when the patient lies down in bed; but at other times are experienced after every meal.

Hiccup is frequently a most distressing symptom, and such patients often become drowsy, after even light repasts. The temper, too, has changed. Trifling annoyances affect them much more than formerly, and with their dearest friends and relations such persons are often peevish and irritable.

In most cases the bowels, which were wont to act regularly once a day, are now often two or three days without a motion, and even then only with the aid of medicine. This increases all the other symptoms, and in many patients causes hæmorrhoids.

The urine, which perhaps has been for years high-coloured, and loaded with a brickdust sediment, has of late become much more clear and pale. The quantity, too, is often much diminished. Irritability of the



bladder at times causes the patient much suffering, and often sexual desires are increased.

Fatigue, after but slight exercise, is shown by severe pains in the muscles, somewhat resembling in character those which are known in youth as growing pains.

A dull pain, close to the vertebræ in the sacral or dorsal region, is of frequent occurrence, and many contract a habit of grinding their teeth.

Even gentle exercise often causes the opposed surfaces of the groins to chafe, inflame, and discharge an acrid secretion often possessing a strong odour which inflames the skin and causes a burning or scalding sensation. This is the affection known as erythema intertrigo.

At night, when the body is warm in bed, severe itching, characterizing prurigo, is not unusual, and the patient often suffers much from urticaria or nettle-rash. Acne is also very frequently present on the forehead and shoulders.

Oft-recurring cramp in the leg, so severe as to oblige the patient to jump out of bed, is a common and distressing symptom.

Pains, often severe, are experienced in the head, abdomen, or chest, and such persons are frequently

---

affected with violent palpitations. Absolute insomnia is at times a forerunner of gout. My friend and colleague, Dr. William Martin, has a patient who invariably suffers from complete loss of sleep prior to each attack.

Such are the premonitory symptoms of gout. Sometimes the disease is here checked, and a life of suffering thus avoided. The food is changed, more exercise is taken, stimulants are indulged in to a less extent, and soon the patient finds himself restored to health.

Usually, however, these warnings are neglected, and the patient soon finds his condition grow worse. The skin becomes unnaturally dry, his sleep is disturbed and restless, and dyspepsia becomes so troublesome that almost everything he eats or drinks disagrees with him.

In this state he increases his stimulants, and by their use temporarily relieves those urgent symptoms; but often, when their effect has passed away, the reaction brings with it a fit of regular gout. In other cases, however, no such crisis occurs, but the symptoms increase in severity, until one or other becomes so much aggravated as to assume a character which has received

the name of irregular or anomalous gout. Hemicrania, severe pains in the eyeballs, mild conjunctivitis, cramp in the stomach, inflammation of the tonsils, lumbago, sciatica, neuralgia about the face and teeth, and pains in the knee or the muscles of the leg, so severe as to prevent the patient from walking, are the forms it may assume. Hypochondriasis, too, is very frequent. Dyspepsia often disappears as anomalous gout becomes developed.

One of my patients, a man of nearly seventy years of age, has suffered in this way from agonizing pain in the head, usually lasting for three or four days. His attacks are nearly always occasioned by professional or domestic annoyances, and commence with dyspepsia and pain in the stomach; these subside as the pain affects the head. Occasionally an attack of bronchitis or lumbago succeeds, or even precedes the head affection.

Another patient, an elderly lady, suffered for years, at intervals, from a most acute headache. As she had no idea of being the subject of gout, it was attributed entirely to derangement of the stomach and bowels. My first acquaintance with her was on being summoned to her bedside, in the middle of the night,

when I found her suffering from an intense pain in the stomach, accompanied by a sense of choking. She had taken some medicine a few hours previously to relieve her head and to procure sleep; she now feared she had been poisoned. I prescribed suitable treatment, and before morning the great toe of the right foot was painful, red, and inflamed. The fit was, however, mild, and in four days she was perfectly recovered. Subsequently she had several attacks of regular gout.

Severe pain at the vertex and back of the head, often returning with singular regularity, is common. There is generally with this tenderness and a distinct heat of the scalp, and it is often preceded by a vertigo, dimness of vision, or the well-known sensation of coloured particles floating before the eyes.\*

W. M., a gentleman aged sixty-seven, residing near Mullingar, consulted me in reference to a severe headache from which he had suffered for some years. It generally came on at night, and lasted with more or less severity for three or four days. During the paroxysm the whole scalp was tender to the touch. At times the headache would subside, and one of the

\* Subjective physiological *Muscae Volitantes* (*Myodesopia*).

eyes become very much inflamed ; and on one occasion a severe pain in the ear was experienced as the headache became relieved. Looking upon the case as one of gout, I ordered him, while suffering from what he considered a very severe attack, moderate doses of colchicum. This gave him instant relief. I subsequently treated him for gout, and succeeded in preventing any return of the pain.

J. P. Y., aged thirty-two, has been subject for some years to severe pain in the vertex and back of his head. This was generally preceded by dimness of vision, and "sparks flashing before his eyes," numbness of the hand and leg of one side, and other such symptoms. He had been treated with bromides for a considerable time, without relief. I examined his blood, and found it to be loaded with urates. I accordingly treated him for gout, and in a very short time he had perfectly recovered.

A professional gentleman, aged forty-four, was subject to severe attacks of hemicrania for some years. These generally lasted four or five days, and were invariably preceded by the sensation of "coloured sparks floating before the eyes." So severe was the pain that he was unable even to bear light or the slightest noise.

When he first consulted me I was struck with the symptoms which he told me preceded the attack, namely, that his urine became scanty, and he experienced severe pains in his back and ankles. He also suffered much from flatulency for several days. On questioning him carefully, I discovered that his father had been very gouty. The next occasion on which he was attacked I prescribed a colchicum mixture, which relieved him instantly, and twenty minutes after taking it he had completely lost all pain in the head. Since, I have been able to prevent its recurrence by regulating his diet and ordering him outdoor exercise when the premonitory symptoms appear.

Another of my patients, who had been subject for many years to similar seizures of hemicrania, but never suspected they were at all gouty, was attacked one night with pleuritic "stitch," which became so severe as to necessitate my being summoned. I ordered him two doses of a colchicum mixture. Before morning he was relieved. The following night, however, he was seized with an attack of gout in the toe.

These cases all mark the mild varieties of gouty affections of the head. The more serious ones I have placed under the heading of *Misplaced Gout*.

Should the patient become affected with any inflammatory affection while suffering from anomalous gout, the attack is much modified by the gouty poison. I once attended a patient suffering from ophthalmia, and as it did not yield to ordinary remedies, I questioned him closely, and discovered that he was frequently affected with severe pains, which alternated between the head and stomach. I ordered him colchicum, which completely cured the eye affection. Three weeks later he suffered from a mild attack of acute gout in the finger.

I was on another occasion asked to see an old gentleman who was confined for many weeks with bronchitis, which had resisted all ordinary remedies. I soon learned from him that he was very gouty. I accordingly ordered him a mixture containing colchicum, and in three days he was perfectly well. He has since had several attacks of gouty ophthalmia.

A butler applied at the hospital dispensary, complaining of intense pain in both eyeballs. He was forty-five years of age, and had had two fits of regular gout. About three months previously the eyes had been similarly affected for nearly three weeks.

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I prescribed a mixture containing colchicum, after the third dose of which the pain subsided.

Sometimes an attack is prevented by the occurrence of diarrhœa, epistaxis, or bleeding piles.

E. B., seventy-five years of age, has been subject to gout for upwards of twenty years. Three years ago, instead of the return of the disease, he had a smart attack of bleeding piles, which seemed to act as a preventive. Every three months since he has either had a seizure of gout, or bleeding from nose, or piles.

J. K., thirty-six years of age, whose family had ever been gouty, was attacked some two years ago with a severe pain in the tibia. In a few hours the pain abated, but its seat was marked by a very considerable swelling. He applied cold applications, which reduced this rapidly, but he immediately suffered from severe palpitation and sense of anxiety about the region of the heart. This subsided after continued poulticing, and the ankle became affected. Subsequently the toe was the seat of the disease, and this was completely relieved by the occurrence of copious hemorrhage from piles. He has since had three attacks of regular gout.



J. J., a gentleman subject to gout for years, on three occasions, when he had the usual premonitory symptoms, suffered from severe diarrhœa, which always prevented the gouty attack. My note-book contains a very large number of such cases, two of which were relieved by a copious attack of bleeding from the nose.

At times when uric acid has collected in considerable quantities in the blood, and no attack of gout manifests itself, the patient suffers from hypochondriasis. This has been found so common that many regard it as a characteristic feature of the disease. I have frequently met gouty cases where the patient's life was rendered miserable by a conviction that some dreadful calamity was about to befall him. This state is often much increased by the terrible dreams by which it is invariably accompanied. In one case it was my lot to witness, this condition reached to such a degree that the friends of the patient sought to place him in a lunatic asylum. He was a man forty years of age, and took little exercise, and drank about a quart daily of ale or porter. Gout was not hereditary. I had attended him frequently for the atonic variety of this disease, which had attacked his toes, ankle, knees,

hands, and wrists. All my arguments failed to induce him to change his habits. I could not even prevail on him to substitute spirits for his usual drink. I discovered one day that he had a great partiality for cider. At my earnest request he confined his stimulants entirely to this cooling beverage, of which I was afterwards informed he drank enormous quantities. In twelve months he was not only free from gout, but also from all traces of the hypochondriasis which had so alarmed his friends. He has not, moreover, since suffered from a relapse of either complaint. The peculiarity of this case was that when he was free from gout he became subject to hypochondriasis.

I was consulted in March, 1883, by a nobleman, forty-five years of age, who had been suffering for a considerable time from hypochondriasis. He fancied that he was seriously ill, and could hardly get rid of the idea that he was on the point of dying. I failed, however, to detect the slightest symptom of any illness. On examining the condition of the blood I found it loaded with uric acid, and on questioning him more closely, I discovered that every member of his family alive, except himself, suffered

from regular gout. I ordered him a course of citrate of lithia, and sent him to one of the German spas. He returned in three months in good spirits and free from all symptoms of the hypochondriasis which had so long rendered his life miserable. The blood I found was now free from the undue collection of uric acid. Four times since he has consulted me in the same condition, and each time with the same result. In this case I have no doubt the presence of the gouty poison in the blood produced the hypochondriasis.

E. G., a gentleman of independent means, and without occupation, consulted me about six years ago, owing to the low spirits he suffered and the fear he had that some calamity was about to befall him. I found his tongue clean, his pulse normal, and no signs that could indicate that he was suffering from any organic disease. I questioned him carefully, and found that he suffered a good deal from flatulency after retiring to bed. I likewise ascertained that his father had been gouty. An examination of the blood revealed the existence of an abnormal quantity of uric acid, and he had some granules of urate of soda in the cartilage of the ear. I prescribed regular riding exercise, quinine, and citrate of lithia. Four days

afterwards he returned to me greatly improved, and the blood almost free from any traces of uric acid. I have seen this gentleman frequently since, and once attended him for an attack of regular gout in the toe. A feeling of depression always marks the collection of uric acid in the blood, but the same treatment always relieves it.

I could record many such cases from my note-book, but these few will sufficiently exemplify this variety of gout.

*Prognosis.*—The prognosis in anomalous gout is always favourable. If we can prevail on the patient to follow directions as to diet and exercise, the disease is easily cured.

*Treatment of Premonitory Symptoms.*—In cases where the symptoms above described as premonitory of gout occur, active treatment will quickly restore the patient to health. This should commence with stimulating the liver, and freeing the bowels. For this purpose I have been accustomed to order, at night, two pills composed of from two to five grains of blue and five of compound rhubarb pill, followed in the morning by a dose of Hunyadi janos or Püllna water, heated by the addition of warm water, or by taking imme-

diately a warm drink. In some cases even a much smaller dose of blue pill will answer. Podophyllin or taraxacum may also be used.

The next important portion of the treatment consists in regulating the amount of exercise, which should be but moderate. Yet it should be continued with perseverance. In cases where a very sedentary life has been led, I fix the amount as two hours' daily walking, or better still, riding exercise. This can easily be taken, divided into two or even four walks of an hour or half-an-hour each. The riding exercise is better taken at once. In another portion of this work I shall give striking examples where this alone would remove all traces, not only of premonitory symptoms, but of actual gout. Yet this exercise should not be excessive, or sufficient to produce depression; otherwise it may bring on a fresh attack. Such cases will also be found narrated hereafter.

Next to exercise, the diet should be marked out. Ale, porter, port, champagne, sherry, and Madeira, should be strictly forbidden. Any other stimulants should be limited to such quantity as is absolutely required by the state of the patient's strength. The diet should consist of plainly-cooked, easily-digested

animal food, and well-dressed vegetables, together with farinaceous articles. Great care should be taken to abjure any article of diet which the idiosyncrasy of the individual has shown to be injurious. More particular directions will be found in the chapter on prevention of gout, and when speaking of the treatment of the other stages or varieties of the disease.

The state of the skin is of the utmost importance in this condition. The Turkish bath or constant ablutions of the entire body in a warm bath are of the greatest use, and when it can be borne, a cold sponge-bath each morning will be of much service.

The kidneys should likewise be regulated with mild diuretics. Citrate of lithia or citrate of potash are the medicines I prefer to any others for this purpose. Citrate of lithia may be mixed with salt and used as table salt in the proportion of a teaspoonful of the powder to a tablespoonful of salt, or ten grains may be taken three times a day in Apollinaris or plain water. The ordinary lithia water, being made with the carbonate, is of little service. A little juice squeezed from a lemon, and allowed to stand for a few minutes before being mixed, is a good addition. Carlsbad natural water is often of service.

*Treatment of Anomalous or Irregular Gout.*—Though, when treating merely premonitory symptoms, little more is needed than the foregoing, if the case be one of anomalous or irregular gout—besides attention to the diet, exercise, and aiding the organs of elimination in their functions—we must also rouse and strengthen the nervous system. Colchicum may also be prescribed in an alkaline mixture. In many cases I believe that the drug acts better in small doses. A few days of this treatment should be succeeded by the administration of some nerve tonic. Quinine, which I look upon as such, answers well, but any of the others hereinafter mentioned may be substituted. Bromide of ammonium I have often found of use. Strychnine and phosphorus are at times useful adjuncts. My chief reliance, however, is placed on sulphate of quinine, which I prescribe in three-grain doses, and continue for a considerable time. Citrate of caffeine, being a nerve stimulant, is of the greatest service in every case of anomalous gout, and in mild attacks of gouty headache it is a specific. Taraxacum and sarsaparilla I likewise use as general tonics. The former, if given in large doses, keeps the liver in its proper condition by occasionally stimulating it to action. Camphor I have also found of use.

Opiates are sometimes required. I believe it is better to use a small quantity of solution of muriate of morphia, injected subcutaneously, than to administer the opium by the mouth. If, however, the latter plan is preferred, the most desirable preparations are Battley's sedative, or solution of the muriate of morphia. The former, combined with chlorodyne, is occasionally of much service.

The same restrictions as to diet and stimulants must be observed as in the treatment of the premonitory symptoms. There is one thing, however, that I wish to lay particular stress on, namely, the quantity of food taken at one repast. Nothing tends more to impair the health than, after a long fast, taking a full meal. After much observation, both in the United Kingdom and on the Continent, I am convinced that people who addict themselves to this practice are never long-lived. I insist that my patients should never, except at night, be longer than four hours fasting. I attribute much of the success I have had in the treatment of gout to my adoption of this means.

As to stimulants, they are decidedly injurious if not required, but are beneficial if called for by great debility. I never, however, met with a case of gout in a person



under forty years of age in which even a single glass of sherry, daily, was not injurious. To these two latter subjects I shall, however, recur hereafter.

Lemon-juice or vinegar ought to be used at dinner. Tea and coffee I believe to be beneficial.

## CHAPTER III.

*ATONIC AND MISPLACED GOUT.*

THE Atonic species of the disease is that which is popularly known as "Poor Man's Gout." In this so-called variety the *materies morbi* exists in small quantity, but there is much nervous depression. It is the variety to which women are most liable, and is also, in my opinion, the most common species of gout seen in France and Germany, as well as in hospital practice in Ireland.

The affection assumes different forms. In one, perhaps that which is most usual, a patient who has undergone some severe physical or mental exertion, after a long period of repose, finds the muscles of the leg so painful that he is almost unable to move. Believing this to be but the ordinary result of his unusual labour, he retires to rest, hoping that sleep will remove all traces thereof. This, however, he finds to

be an error. The pain, which has much increased, and has become settled in one part, makes him so restless that he finds repose impossible. He passes a comfortless night, sleeping but little, and when dozing is much disturbed by unpleasant dreams. In the morning the affected part may be slightly œdematous. It is not red, nor is the pain much increased by pressure. For many days the patient remains feverish, and unable to move the affected limb. The skin is dry, the urine scanty, the bowels constipated, and the patient much inclined to despond. In this state he continues for many days, or even weeks, and then the affection subsides, leaving, however, its traces, in the shape of pain, stiffness, and swelling. These latter are often so severe for months that the patient walks with difficulty, and frequently is obliged to use a stick. A second attack sometimes occurs before all vestiges of the first have disappeared. Unusual exercise, a blow, sprain, or other accident, is often the *immediate* cause of this form of gout. The ankle, wrist, and hand are the parts most frequently affected.

In other cases the disease occurs at night, in the great toe, resembling at first a fit of regular gout. Soon,

however, it assumes a sub-acute form, and leaves the part for a lengthened period painful and stiff.

A. B., a solicitor, forty years of age, led a sedentary life for several years. In his younger days he had been an inveterate sportsman, and had ridden much on a bicycle. During the years '74 and '75 he took no exercise whatever. He never had any symptom of gout. On May 3, 1876, for the first time for several years, he took out his bicycle, and rode some fifteen miles, returning home tired and jaded. He ate little dinner, and soon after retired to bed. After some restless hours he slept soundly until towards daylight, when he awoke with a severe pain in the right ankle. This increased considerably, and he soon became feverish and restless. I saw him on the following morning, when there was little doubt he was suffering from atonic gout. The ankle was œdematous, but not red, and the pain was not much increased by pressure. During several days he remained in this condition. Towards night he usually became worse, and it was ten days before he was convalescent. All this time he was out of sorts, and low-spirited. Two months later he had another seizure in the ball of the toe, also brought about by over-fatigue,

and which from the first assumed a sub-acute form. He recovered very slowly. These attacks left considerable stiffness. On each occasion that he attempted any violent exercise for a considerable period subsequently, he was again seized with some paroxysm of gout. For a short time after each attack he had a trace of albumen in the urine. I put him under a Quino-alkaline treatment which was continued with slight intermissions for four months, at the end of which time he was quite free from all trace of the disease, and can now take exercise with impunity.

A professional gentleman who had been for several years engaged in arduous labour, leading a sedentary life, never taking vacation or any relaxation, determined to take a tour in Wicklow. The first day he walked some ten miles, after which he retired to rest, greatly fatigued. He could not sleep, but tossed about restlessly till towards the break of day, when he fell into a light sleep from which he speedily awoke with an aching in his right wrist. Thinking he had twisted or strained it, he rubbed the affected part with his other hand, and soon obtained a little relief. In the morning the thumb of the same hand became affected. I saw him a few hours afterwards, when he had

well-marked sub-acute gouty inflammation of the wrist and thumb. The pain was quickly relieved by colchicum, but the œdema remained for eight or ten days. His next attempt to take violent exercise was followed by gouty inflammation of the ankle, which ran the usual course.

My note-book contains a great many similar cases.

*Prognosis.*—This variety of the disease weakens a patient much more than the acute form. It is, however, more easily cured. I have never yet met with a case of atonic gout which did not readily yield to treatment, when the patient would follow advice.

*Treatment.*—The treatment of this form of gout must be conducted in accordance with the principles laid down in the chapter on the treatment of Regular Gout. These may be briefly summed up as attention to the diet, regulation of the bowels, kidneys, and skin, and the administration of alkalies and nerve tonics. The amount of exercise also requires special mention; it should be in accordance with the patient's strength; never so much as to over-fatigue him. Horse and carriage exercise is frequently more advisable than much walking. Change of air and scene are also of much service. I have known several instances where

a tour in Connemara or Wales has completely cured a patient. A visit to one of the sulphur spas is at times of the greatest advantage. One gentleman, a well-known wine-merchant in this city, who had been lame for years from atonic gout, was completely cured by a three weeks, course at Lucan.

Citrate of lithia and citrate of potash I would recommend as by far the best alkalies to employ in this species of the disease. In young subjects I would confine the drink taken at dinner entirely to lemon with spring or soda or Apollinaris water without sugar. Smoking is sometimes injurious, but some patients are benefited by it when only indulged in to a very moderate extent. Excessive smoking is always injurious. Coffee I believe to be of use in this form of the disease. Light reading and frequenting the theatres is beneficial. The mind should always be withdrawn from business matters. Chaulmoogra oil or ointment is an excellent local application in the chronic stage of this variety of gout; tincture or liniment of iodine is sometimes of much service.

In the form known as Misplaced Gout, the amount of uric acid in the blood is usually large, and there is at the same time great nervous depression. Any portion

of the body may become the seat of this variety of the disease.

There can be little doubt that the kidney is the organ of most importance in gout. It is that most commonly attacked, and often becomes affected in the very earliest stages of the disease. In anomalous gout, and during the premonitory symptoms, there is often *very* temporary anæmia, caused by the irritation produced by minute deposits of urate of soda. Congestion soon results. In this there is often little or no pain, perhaps only a sensation which is best described by the term "aching" over the region of one or both kidneys, accompanied and followed by a diminished secretion of urine. This condition is often relieved by free action of the skin. There is subsequently an increased flow of urine, and all pain soon vanishes. In misplaced gout, however, the pain soon increases, and a mild attack of nephritis is established. Even with this condition, in gouty patients, there is slight pain, but there is always some little albuminuria.

Some time ago an English nobleman, passing through Dublin, consulted me as to a slight attack of urticaria. While examining him I was struck with the amount of deposit of urate of soda on the cartilage of the ear. I



tested the serum of the blood and found it loaded with uric acid. He had never suffered from gout, but his father had been a martyr to the disease. He informed me that he was travelling on account of low spirits, which had made him peevish and irritable to a degree that compelled him to seek change of air and scene. For three or four days he had felt a slight aching over the region of the kidneys—so slight that he did not think of mentioning it until questioned. There was some tenderness on pressure, and the urine contained a small trace of albumen. There were, however, no casts, or other signs of nephritis. On my urgent request he remained in Dublin for a week, during which he took a Turkish bath daily, a good deal of walking exercise, small doses of colchicum, and a considerable quantity of decoction of ash-leaves with elm-bark. After four days the albumen had completely disappeared, and he felt so well at the end of the first week that, instead of going on, he returned home feeling in perfect health. He has since had two regular attacks of gout.

I have met with similar cases so often that I think they must be familiar to every practitioner.

Later in the disease, the kidneys at first become

somewhat enlarged, probably from repeated slight attacks of nephritis, and in this condition the deposit of urate of soda becomes greater in quantity. After a very short time, if the disease progresses, the kidneys begin to atrophy, and soon the gouty kidney becomes developed. The organ so affected is very much contracted, with a shrivelled look, the capsules thickened and adherent, with an abundant deposit of urate of soda both on the surface and in white streaks not only in and about the pyramids, but also in what remains of the cortical structure.

Some years ago, two patients died in Jervis Street Hospital: one of hæmorrhage from the kidneys, and the other was killed in an accident. The latter had two attacks of acute gout, and had suffered more or less for some three years from the anomalous variety of the disease. In this case the kidneys were enlarged, and had a few small round granules of urate of soda in the substance of the organ. In the other case, the man had been a sufferer from the disease in every shape for upwards of thirty years, and here the organs were contracted, with numerous white streaks of urate of soda.

Irritability of the bladder is very frequently present in gouty cases. It is, however, in most instances only a

symptom due either to the acrid character of the urine, or more probably to the presence of small globular concretions of urate of soda with conelike spikes, which are often formed in the bladder. At times, however, it is the precursor of gouty inflammation of the bladder and prostate. Cystitis is in gout always the primary affection, and prostatitis secondary. The symptoms consist of great irritability of the bladder, pain and weight about the hypogastric and iliac regions, with tenderness on pressure. The urine must be voided every few minutes, and is accompanied by spasm, constituting strangury. Now as the prostate becomes engaged there is a dull deep pain, with a sense of weight and heat in the perineum, and at times great pain at stool. The finger introduced into the rectum immediately detects the swollen, hot, and tender gland. In gout this condition, unlike the ordinary variety of the disease, never ends in suppuration, but is very often relieved by copious hæmorrhage from the rupture of one of the distended veins of the prostate.

J. D. M., a professional gentleman, between seventy and eighty years of age, whose family had been for generations the subject of gout, had during the past

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thirty years suffered both from misplaced and occasional attacks of regular gout. Some years before his death, while at Aix-la-Chapelle, he got an attack of mild cystitis, which was relieved on the second day by a smart attack of bleeding from the prostate. Two months later he had a similar attack, also relieved in the same way. Some time later the toe became inflamed at night, and as the pain was very great he found relief from exposing it to the cold air. Before morning, however, the bladder and prostate became the subject of the disease, and on the following day ended in the same way as the former two attacks. For four years subsequently, seldom two months passed without a return of these unpleasant symptoms. At first he was wont to feel better as each seizure disappeared, but of late the loss of blood had greatly reduced him, so that the limbs were almost too weak to carry him. In this condition he went to a distant part of the country, where he was again seized, and lost well-nigh a quart of blood in a very few minutes. Syncope was the result, and for several weeks he lay between life and death. After this he rallied very slowly, but the attack returned before his system was sufficiently strong to again stand so great a strain.

This was followed by so-called urinary fever, of which he died.

I have seen several instances of a like condition, but the subjects being younger were able to follow advice and ward off a recurrence of so dangerous a type of the disease.

The eye is often attacked. I have met with three varieties of eye affections, undoubtedly caused by gout, namely, conjunctivitis, sclerotitis or episcleritis, and iritis. The first I have already considered under anomalous gout.

*Inflammation of the Sclerotic*, when it occurs without inflammation of the iris or cornea, is, in my opinion, always gouty. At times the conjunctiva is not affected, but frequently it also is engaged, when the carmine tint of the vessels of the former can be seen under the fine vermilion network of those of this latter structure. There is always great photophobia, lachrymation, and severe neuralgic pains, often extending through the ophthalmic division of the fifth nerve. There is generally, too, a dull, heavy pain around the eye.

M. C., the wife of a well-known mercantile man, is constantly attacked with this variety of gout. The

pain is often most severe. I have always been able to relieve her instantly with colchicum.

The gouty variety of iritis resembles in many particulars the other forms of this disease.

A gentleman, sixty-three years of age, was seized at night with violent pain in the right eye. I saw him an hour afterwards. The organ presented all the characters of acute iritis. He was treated for gout, and recovered without any injury to the sight.

I once admitted a man, aged fifty-eight years, into Jervis Street Hospital, suffering from severe iritis. He had been attacked at night, just three weeks previously. During the interval he had suffered much, and had submitted to every variety of treatment without the slightest benefit. On his admission, he was suffering from intense pain, and at the suggestion of my friend and colleague, Dr. Corley, I ordered him large doses of colchicum. After the second dose the pain subsided, and in two days all inflammatory symptoms had ceased. He has since suffered from regular gout.

One of the earliest signs of a gouty tendency is the occurrence of urate of soda nodules upon the cartilages of the ear. In cases of anomalous gout

agonizing pain in the ear is often experienced. Sometimes this pain only lasts for a few minutes; other times it lasts for hours, and develops into gouty inflammation of the ear. In this affection, which is not uncommon, there is usually an alkaline discharge during the attack. If this does not take place, deafness remains for some months. The following are two such cases :

An elderly gentleman, in whose family gout had been for generations, and who had repeatedly suffered from the misplaced variety of the disease, was seized at night with violent pain in the left ear. Leeches, purging, and blistering were freely applied. I saw him on the third day. There was then a thin alkaline discharge from the affected ear. I ordered three draughts of Battley's sedative and tincture of the seeds of colchicum. At my visit next day he was quite free from pain. The following night the other ear became affected. The same draughts were ordered, and again relieved him. No deafness remained in this case.

A gentleman, about forty years of age, consulted me on account of his ears, from which he had been suffering for six days. The left had been first

attacked, and treated with leeching and blistering. On the fourth day the pain had subsided, but soon after the other became affected. The pain was subject to the same exacerbation as in a case of regular gout. Colchicum and opium soon freed him from pain, but deafness remained. This, however, gradually disappeared without any other treatment, and in three months his hearing was as good as before the attack.

Bronchitis is of *very* frequent occurrence in this variety of gout.

A gentleman, thirty-six years of age, consulted me on account of frequent attacks of bronchitis, which usually confined him to bed for several weeks together. When I saw him he had all the symptoms which invariably precede an attack. From the nature of these, as well as from the family history, I suspected its origin to be due to gout. I treated him as if he were about to suffer from this latter affection. This treatment not only arrested the threatened attack, but, by a repetition thereof whenever the premonitory symptoms appeared, he has been entirely delivered from an affection which had injured him considerably in his profession.

I was summoned one morning to attend a lady, the



wife of a well-known member of Parliament, who during the night was attacked with severe bronchitis. Knowing her to be of a gouty habit, having attended her for anomalous gout, I prescribed a mixture containing colchicum, which at once relieved the great difficulty of breathing and coughing from which she suffered. The following night she had severe pains in the calves of her legs and knees. The same mixture relieved her. On the third night she suffered from severe neuralgic pains in her ears, and headache, and on the fourth night she had a regular attack of gout in the toe.

I could enumerate a large number of cases similar to the above; but these are sufficient to exemplify what I wish to show.

At times gouty inflammation attacks the pleura, causing considerable suffering.

A short time ago a case of this kind occurred in the practice of my friend Dr. Martindale Ward, of Twickenham. The subject was a man about fifty years of age, who had experienced frequent attacks of regular gout. At the time of his present seizure, he was suffering from the effects of an extra capsular fracture of the femur. A few days after the accident the knee was seized with gouty inflammation. This was

speedily checked by colchicum. Ten days later he was attacked towards morning with excruciating pain in the right side. After some hours this abated, but as evening approached it again increased, until it became agonizing. On the second day colchicum and opium put an end to the attack.

Some years ago I was asked to see a young barrister who had been seized the previous night with a severe pain in his left side. A large mustard sinapism was at once applied, which gave immediate, though temporary, relief. The pain returned in a few hours with increased violence. When I saw him he was sitting up in bed, suffering intense agony. The breathing was hurried and irregular. The patient was himself conscious of the friction, which was of a rough and harsh kind. There was very slight dulness below the seat of pain, where there was also decreased vocal fremitus, and feeble respiratory sounds. *Ægophony* was heard at the angle of the scapula. I knew all his family to be gouty, and that he had had a severe attack of regular gout. I took eight ounces from the median cephalic vein. Before a single ounce had been taken he was relieved, and before his arm was bound up he was completely free from all pain. An alkaline mixture

was prescribed, and his diet restricted. I saw him the following morning. During the night the left toe had become painful and œdematous. Colchicum was now added to his mixture, and in three days he was convalescent. About two years later this gentleman had a similar attack in England; he was bled, but colchicum was not administered. The attack lasted three weeks, and it was some months before he was quite recovered. If the heart be affected by misplaced gout, the symptoms it produces are those of great debility and constrictive pain in the præcordial region, accompanied by severe palpitation and irregularity of rhythm. If the seizure be more severe, the first symptom is sometimes profound syncope. In this the patient may expire from gouty spasm of the heart.

My friend Dr. Wheeler has narrated to me a case of this kind. The patient, a well-known Irish official, had been frequently treated for gout, and of late could not walk against the wind without getting a severe pain in the præcordium. The day of his death, in consequence of suffering in this way, he consulted Dr. Wheeler; but as soon as he entered this eminent surgeon's house the pain vanished, and he expressed himself as feeling perfectly well. He was strongly advised to drive home,

and at once apply gouty remedies ; but being a man who was not easily led, he walked home. The pain returned in a short time, and a few hours later he was found sitting in his own study in a moribund condition. Before medical assistance could be procured he expired.

Should the patient survive, however, he is attacked with violent palpitation, accompanied with deep dull pain in the left side, short and laborious breathing, and orthopnœa. The condition somewhat resembles angina pectoris, and I am strongly of opinion that many cases of this disease are simply gout affecting the heart. The patient is usually a very considerable time before he feels as well as before the attack.

I have known one case in which the symptoms just narrated were all present, and as I entered the room the patient was sitting up in bed struggling for breath. I had scarcely reached the bed before there was a gush of blood from the nose, which flowed freely for several minutes, at the end of which time all the other symptoms subsided, and in half an hour the patient was quite relieved. Two days afterwards, the toe of the right foot became engaged, and he passed through a rather severe attack of acute gout.

J. D., a gentleman of forty years, married, and belonging to a gouty family, was attacked after a rather hearty dinner with severe palpitation, accompanied with great pallor and faintness; he became almost insensible. I was summoned, and found his breathing quick and laborious, and his pulse weak and intermittent. The first sound of the heart was very feeble, and he complained of oppression and uneasiness in the præcordial region. He could not speak. I gave him a sub-cutaneous injection of ether, prescribed ammonia and colchicum, and applied mustard-leaves over the heart. Relief followed the first dose of the colchicum, and in an hour's time the heart's action was normal. Twenty-four hours later he had a slight return, and on the third night was seized with gout in the toe.

At times gout attacks the throat and larynx. This form of misplaced gout is extremely dangerous. It generally comes on at night. A gentleman of independent means retired to rest after a day of great enjoyment, and having partaken of a hearty dinner, for which he had considerable appetite. At one o'clock in the morning he awoke with a feeling of uneasiness about the throat; this rapidly increased; the stomach

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was sick, and a severe rigor ensued. I saw him an hour afterwards. The uvula, palate, and tonsils were œdematous, the voice husky; yet the pulse was not much increased in frequency, nor was there much increase of temperature. Knowing that the family were particularly gouty, I ordered a calomel and jalap purge, alkaline mixture with colchicum, and the feet to be bathed in mustard and water. The affection lasted for three days. Some six months subsequently he was seized with regular gout, which suddenly subsided, and he had another attack exactly similar to the one just described. I know of a similar case which ended fatally, the disease having left the throat the heart becoming affected. I only saw this patient when he was moribund, yet I have no doubt of the gouty character of the attack, having had previous medical knowledge of his constitution and habits.

A barrister, thirty-five years of age, married, retired to rest after a hearty meal, and feeling rather better than usual. He awoke about one o'clock in the morning with a feeling of difficulty in swallowing. This increased rapidly, and in a couple of hours he was unable to swallow even water. I saw him shortly afterwards; the whole fauces, tonsils and uvula were

dusky red and œdematous. Although both were much inflamed, yet one tonsil was much larger than the other. I ordered him a calomel and jalap purge, and brushed the part with muriated tincture of iron. In the morning he was somewhat relieved, but had become quite hoarse. Towards night he again became worse. I now ordered him a mixture of the three salts of potash with lithia and colchicum. The second dose gave him relief, and in a very short time the pain subsided, and he had some quiet sleep. The following night he had a slight return; the same treatment was pursued, and in ten days he was quite convalescent. A short time afterwards he had an attack of gout in the knee-joint, and has since suffered from it in the toe.

Cases of this kind are of frequent occurrence, and I have very little doubt that the presence of gouty poison in the blood, accompanied with depression of the nervous system, is the exciting cause of many cases of tonsillitis.

Mr. Henry Lalouette, the well-known Dublin carriage proprietor, aged forty-seven, whose mother had been subject to gout in the hands, was seized several years ago, about two o'clock in the morning, with spasm of

the glottis. When the actual spasm subsided great difficulty of breathing remained, and every ten or fifteen minutes another spasm caused almost complete asphyxia. This lasted for two or three hours before he obtained relief. Four months later he again suffered from the same symptoms, lasting for some six hours. The following night he again had an attack of shorter duration, and again on the third night, when it seemed to have subsided. Each time the fit ended in profuse perspiration. I first saw him about twelve months ago, when he had become accustomed to these paroxysms. They generally occurred about two or three o'clock in the morning, waking from sleep with a suffocating feeling. On one occasion, for eight hours he was held up in bed gasping for breath, with the face congested and well-nigh in an unconscious state. He had complete loss of voice, which continued for some time after the attack had passed away.

Finding his blood loaded with uric acid, and the urine during the seizure characteristic of the disease, I looked upon the case as purely gouty. I ordered him a moderate dose of colchicum combined with citrate of lithia, which gave him instant relief, since which time he has always been able to obtain immediate ease when



attacked, and by pursuing an anti-gouty treatment he is now almost completely cured.

The stomach, too, may be the situation of attack in misplaced gout; it is then marked by cramp and vomiting. Occasionally, as it passes off, a severe form of diarrhoea seems to eliminate the poison. It is then often considered to be indigestion.

There are some eminent medical men who have stated to me that they do not believe gout ever affects the stomach, and that such cases are invariably the result of eating something which disagreed with the patient. The following cases however, amongst others, have satisfied me that this affection not only exists, but is always of a serious character.

E. L., who had repeatedly suffered from regular gout, was seized with intense pain in the stomach and accompanied with violent vomiting. I saw him twenty minutes after the attack commenced; he was then in an exhausted condition, being quite pulseless, but still complaining by signs of great pain. I administered morphia, colchicum and ammonia, which instantly relieved him. Two days later he was attacked with regular gout.

E. G., a nobleman, sixty-two years of age, and who

had been subject all his life to regular attacks of gout, while entertaining some friends in his house, was suddenly seized with severe pain in his stomach. This resembled cramp, and was accompanied by vomiting. The bowels were confined, and during the intervals of the paroxysms there was an aching sensation in the epigastric region. The medical man who saw him considered that it was due to some indigestible matter of which he had partaken. In the morning, by aid of poulticing and other such treatment, he was somewhat relieved. Towards night the pain again increased. I was summoned by telegram, and saw him at two o'clock in the morning. I looked upon the disease as gouty; judging from the history, and the fact that the attack occurred when he expected a seizure of acute gout. I therefore ordered him a mixture of colchicum, cajaput, aromatic spirits of ammonia, and morphia, and directed other suitable treatment. The first dose gave him instant relief. The next day he was confined to bed, and his feet wrapped in cotton-wool. That night a mild attack of gout was developed in the left toe.

Two eminent public men who have died lately were stated to have died from gout in the stomach. It is

very probable, however, that in fatal cases the heart also becomes engaged.

Pain and tenderness in the spine, increased by the slightest movement, accompanied by spasm or stiffness of the muscles of the limbs and body, together with hyperæsthesia, show that the spinal cord and its membranes have become affected.

I have also met with some cases in which a gouty affection of the spine resembled locomotor ataxy. These cases are extremely difficult to diagnose; and I have had at least three patients whose cases were so mistaken, and treated for the more serious affection.

The following is the most remarkable of these cases :

J. J. O. S., aged forty-five, was attacked five years ago with all the symptoms of locomotor ataxy. He was shortly after seen by five eminent medical men, all of whom looked upon the case as an incurable one of spinal disease. Subsequently I was consulted. Learning that all his family were subject to gout, and finding his blood loaded with uric acid, and that all former treatment had been of little or no benefit, I thought it possible that it was a gouty attack in the spinal cord. I treated him accordingly, and in eight

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weeks he was perfectly recovered. He has since had several attacks of regular gout.

Epileptic fits ceasing on the occurrence of a paroxysm of gout has been noticed by several authors. I am convinced that epilepsy is very often due to gout. I have at present under my care several cases of it occurring in patients whose family are all gouty, and in whom colchicum always averts the attack. One patient, a professional gentleman, some years ago was seized with a fit of epilepsy. He had previously had several attacks of gout, which at the time of his first seizure generally came on every third month. Six months, however, elapsed at the time, and the patient was quite convinced the convulsions had occurred instead of the gouty attack. Subsequent experience showed that in this conjecture he was right. Almost regularly every three or four months since, unless warded off by treatment, either one or other attack him. Colchicum and lithia invariably prevent their occurrence, whereas the bromides which he has taken in large quantities have never had the slightest beneficial effect.

The head is frequently the seat of this variety of the disease. In the chapter on anomalous gout I have narrated several cases of severe hemicrania and others,

which I considered were merely mild attacks of the disease, occurring where the *materies morbi* was slight in amount; but a good deal of depression existed. Misplaced gout of the head, however, I regard as a very serious affection. It is doubted by some authors that it exists, but I have attended several cases in which there can be no doubt whatever that the disease I had to encounter was gout. It is generally preceded by intense pain, often accompanied by vomiting, and followed by partial stupor. Sometimes the patients, as in acute rheumatism, imagine that the very bed on which they lie is on fire, having a sensation of heat over the entire surface. In other cases apoplexy results.

Some years ago I was summoned to an hotel to see a gentleman from the north of Ireland, who had been suddenly taken ill. I found him in an unconscious condition, and the attendant informed me he had been seized with intense pain in the head accompanied with vomiting, a short time before I arrived, which was immediately followed by the condition of stupor in which he now lay. An hour before the attack he had eaten a hearty dinner. There was no stertorous breathing, the pupils were contracted,

and the pulse was quick and weak. On the previous night he had complained of severe pain in the back, which, however, was relieved before morning. I ordered a stimulating enema, and the feet to be wrapped in hot flannel, applying at the same time mustard-leaves to the calves of his legs and back of the neck. In about twenty minutes he partially revived, and when able to swallow I gave a calomel and jalap purge. A short time afterwards he became conscious, and complained of intense headache. Towards morning his left toe became inflamed, and all the cerebral symptoms subsided.

Gouty inflammation of the testicle is of frequent occurrence. It generally comes on suddenly at night. The body of the organ is usually first affected, as shown by its uniform ovoid enlargement, accompanied by severe pain and tenderness extending up the groin and loins. The scrotum, too, is swollen, and veins turgid.

A. B., solicitor, who had led a sedentary life for some years, and who had two or three sub-acute attacks of gout, was seized some five years ago with an attack of cystitis. This was treated by ordinary surgical remedies, but he was not quite relieved for nearly six months. It was accompanied with

great irritability of the bladder and severe pain. During three months subsequently he remained free from it, when he was again attacked. Shortly after, I was consulted, and finding that there was a gouty condition of his blood I put him upon colchicum. The first dose gave him relief, and in three days he was quite free from the symptoms. Six months afterwards I again saw him, when he had a severe fit of regular gout. The next time I attended him was for orchitis. This proved also to be gouty, for it suddenly subsided, when the toe became inflamed and the disease ran its usual course. I have since attended him on several occasions, twice with inflammation of the testicle, and on the remaining occasions with true gout. This is the sixth case of gouty orchitis that I have met. Another gentleman has had four attacks, each one of which terminated by some joint becoming affected.

Gouty discharge from the urethra is a very common affection, but one which may be readily relieved by a gentle purge followed by a diuretic mixture and the passing of a few medicated bougies.

Gout often shows its presence by cutaneous eruptions—erythema intertrigo, psoriasis, eczema, urticaria,

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prurigo, and lichen, are the diseases most usually met with of a gouty nature. Of these I believe psoriasis to be the most common.

M. C., a lady seventy-three years of age, has had, since the change of life, some seventeen attacks of regular gout. About eighteen months since, the usual visitation did not occur, but psoriasis appeared, and it was accompanied with a good deal of irritation. This spread rapidly, until both her legs and thighs were covered with it. During the year-and-a-half she had this cutaneous eruption she had no return of the disease in the toe. The treatment consisted of an alkaline mixture with colchicum, which perfectly cured her; but three months after she was again attacked with acute gout.

K. M., the wife of a medical man, after some days of unusual mental anxiety, retired to rest at midnight. About three o'clock in the morning she was roused from a sound sleep by a burning pain in her left arm, which soon became red and œdematous. In a few hours the spots characteristic of eczema were developed; the entire fingers and hands now became œdematous. The attack lasted six days and was relieved by a potash and colchicum mixture. The discharge from the vesicles



was found to contain urate of soda. Ten days later a single glass of champagne caused a slight return of the eruption.

Cases of urticaria, erythema, lichen, and prurigo in gouty patients are so numerous that they must be familiar to every practitioner.

The following I regard as two most interesting cases of misplaced gout :

C. H. M., a member of Parliament, whose family were all gouty, and whose father and great-grandfather both died of gout, but who previously had never had any symptoms of the disease, was seized towards day-break with intense pain in the left ear. This increased to such an extent that a medical man was summoned. He adopted treatment for acute inflammation. The pain was so intense that opiates had to be given freely. For many days the pain was very severe, and increased considerably at night. It assumed a throbbing character. The surgeon attending, believing that there was acute periostitis, made preparations for making an incision down on the mastoid process of the temporal bone, with a view of relieving the pain. The friends, however, objected to the operation, and it was not performed. The disease gradually expended itself,

and in five weeks all trace of it ceased ; and, strange to say, no deafness had been left behind. During the treatment the patient had been salivated and frequently leeches. Some six months afterwards he had severe neuralgia, affecting all the teeth, leaving them loose, and which subsided, giving place to an agonizing pain in the other ear exactly similar to that from which he had previously suffered. I saw him two hours after the first symptoms appeared, and ordered a dose of colchicum and opium, which instantly relieved the pain. Six months subsequently he was affected with tonsilitis, which was also relieved by colchicum. At a subsequent period his eyes became affected ; the colchicum again relieved him. The next attack was one of regular gout in the toe, which was not severe, and easily relieved. Twelve months later sugar appeared in the urine, and many of the symptoms of diabetes occurred, followed by numerous boil-like sores over the body. During all this time his blood was loaded with uric acid, and there was much depression of the nervous system. At this time he left Ireland on his Parliamentary duties, and placed himself under the care of Sir Andrew Clark, whose vast experience and extraordinary diagnostic powers enabled him to see

clearly the gouty nature of the disease. Under his advice he changed his whole course of living, and from leading a sedentary life he commenced taking regular riding exercise, and during the shooting-season spent his entire time on the moors. Before he had followed this course for any considerable time all traces of both sugar and other symptoms disappeared. He returned to town and commenced his usual avocations. Some six months later he had severe pain in the shoulder, which I found it very difficult to remove. However, a course at Aix-les-Bains relieved it. He now resumed his exercise, and was soon free from all trouble. On returning again to his work he suffered from a severe form of tic-douloureux. It lasted some weeks, until it was relieved by colchicum. He is now quite well.

I have no doubt every symptom the patient in this case suffered from the beginning was due to gout, caused both by the presence of uric acid in the blood and great depression of the nervous system, although he had only one actual attack of true gout—still all were relieved by gouty remedies.

Dr. —, a medical gentleman of fifty-five years of age, engaged in extensive practice in a provincial town, consulted me some six years ago. I found his blood

loaded with gouty poison ; his knee was so stiff that he could hardly walk ; his nervous system was depressed ; the action of the heart was feeble, intermittent and irregular ; his face was flushed, his respiration hurried ; he had suffered a considerable time from bronchitis ; and in fact he looked upon himself as completely beyond his work. I examined him very carefully, and came to the conclusion that he had no organic disease ; but the condition of his urine and blood showed me he was suffering from misplaced gout. I ordered him a purging mixture of sulphate of soda, sulphate of magnesia, and tartrate of potash in equal parts. A tablespoonful of this in water was to be taken twice a week, together with moderate doses of quinine and lithia. While in Dublin he took a Turkish bath daily. I, moreover, laid down accurate rules for his future method of living ; above all, cautioned him to relieve his mind of much of the mental strain under which he laboured. After a few days' treatment he left town considerably improved ; and being a man of much resolution, he followed accurately all my instructions. I did not see him again for five years, when I was summoned one morning to see him in the Hammam Hotel, in Dublin. I found him a changed being. He

told me that up to a short time before he had been in perfect health, was able to discharge the duties of a large practice, and until recently had been perfectly free from every trace of gout. His pulse was now strong, regular, and seventy-two in the minute; his breathing was easy, and though he had increased in flesh he was far healthier than when I had last seen him. He complained now of pain in the knee and ankle, of recent date, and on careful inquiry into his habits I came to the conclusion that the return of the disease was due only to want of exercise. This I advised him to take regularly every day, and in a very short time he was quite free from every symptom of the disease.

*Treatment of Misplaced Gout.*—The treatment in this form must necessarily be active. No variety of gout yields more readily to remedies, if speedily employed; but no species of the disease is more destructive to life if valuable time be lost.

In gouty affections of the kidney it is most essential to make the skin relieve the affected organ by discharging some of its duty; consequently Turkish baths, and, if these cannot be borne, vapour baths, are of the greatest service. If the affection of the kidneys be

mild, gentle but daily exercise should be prescribed. If from any cause vapour baths or Turkish baths cannot be used, warm baths should be substituted, but these should not be of a greater temperature than 98°. The bowels should also be compelled to aid in relieving the congested kidneys. For this purpose saline purgatives should be employed. Bland drinks in considerable quantities may also be ordered. These may consist of barley-water and lemon-juice, flax-seed tea, or even plain water. The medicine I most use is a decoction of ash-leaves made by boiling an ounce of common ash-leaves in a quart of water for ten minutes, which should then be strained, and the entire consumed within twenty-four hours. This may be combined with an infusion or decoction of elm-bark. I believe this combination to be of immense service in this variety of disease, where I think it acts as a sedative on the irritated kidney. Occasionally fifteen drops of tincture of digitalis and ten grains of citrate of lithia may be added.

If the kidney affection become severe, and the urine contains any considerable amount of albumen, more active treatment is required. This must consist of dry-cupping the loins, warm fomentations and poul-

tices, keeping the patient in bed. When the organs are relieved, gentle stimulating diuretics, as broom, juniper, and nitrous ether, with colchicum, may be used. When there is much renal disease, opium, mercury, and cantharides must be avoided.

The treatment of irritability of the bladder consists in the administration of copious draughts of barley-water and lemon-juice, together with small doses of citrate of potash and lithia. In cystitis and prostatitis the treatment must be of a more active anti-phlogistic character. The urine must be rendered alkaline by liquor potassæ, or bicarbonate of potash. Hyoscyamus and colchicum should be administered. Pereira brava and buchu are useful adjuncts. Suppositories of morphia or belladonna are beneficial, where not contra-indicated. The bowels, too, must also be well cleared out, leeches applied to the perineum, and the patient placed subsequently in a hot hip-bath, in which he should remain for half an hour, and then be removed to a well-warmed bed. Poultices of linseed-meal should now be applied to the lower part of abdomen. Such treatment will usually give relief. If hemorrhage occurs, it is better not to check it at once, but, if it be desired to do so, cold applied

to the pubes, or injected into the bowels or urethra, will soon arrest it.

Should the eye be the part attacked, the bowels must be at once freed, and repeated doses of colchicum administered. A few leeches may also be applied in the neighbourhood of the affected organ, and, if the pain be great, a blister formed rapidly on the temple or behind the ear will be most useful. Turpentine will often afford relief if from any cause colchicum be not advisable.

In severe gouty iritis, besides the above, the patient must be kept in a darkened room, so as to give perfect rest to both eyes. The pupils should be kept well dilated with atrophine. The usual solution is far too weak for this purpose, and one should be made at least four times the strength. This should be used frequently; and, in order to avoid any possibility of poisonous absorption, Von Graafe's plan should be adopted of closing the eye immediately after dropping the atrophine into it, and after a second opening it and then washing it with water. As the pain usually becomes worse at night, a few leeches should be applied at this time and the eye subsequently bathed with hot poppy stupes. In very severe cases, colchicum and



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morphia combined will always relieve it. Calomel is never required in true gouty inflammation, but may be used in doubtful cases.

As there is no variety of gout that yields more readily to remedies than sclerotitis, little more than the general directions given above is necessary for its treatment. However, fifteen drops of wine of colchicum every hour for three or four doses, combined with solution of muriate of morphia or tincture of aconite, with free purgation and a collyrium of half-grain to the ounce of sulphate of zinc, will relieve the most severe cases. Douching the eye with cold water is also of service. If the pain increases, a lotion of chloroform and oil or belladonna applied to the temple and forehead will relieve it. A quino-alkaline mixture should be used for a week after an attack of gouty sclerotitis.

Gouty affection of the ear is most quickly relieved by blistering applied behind the ear, and a free purgation accompanied with moderate doses of colchicum.

The treatment of gouty bronchitis consists in expectorants, alkaline diuretics, counter-irritation, lithia combined with guaiacum, and colchicum. Mustard sinapisms are also of use. Syrup of Tolu, and squills, with

copious draughts of barley-water, are useful adjuncts to the treatment.

In gouty pleurisy, from four to six ounces of blood should be at once taken from the arm. This, as a rule, at once relieves the pain; at the same time, the bowels should be thoroughly cleared out with a calomel and jalap purge, and a mixture of bicarbonate, nitrate and acetate of potash with colchicum ordered, and morphia used hypodermically.

A mixture of sulphate of magnesia, tincture of digitalis and ammonia, combined with colchicum, will generally relieve the affection of the heart consequent on misplaced gout. In all cases, however, mustard-leaves followed by linseed-meal poultices should be at once adopted, and the feet placed in hot water with mustard. Dry-cupping is sometimes required.

When the tonsils are affected with gouty inflammation the treatment should commence with a stimulative emetic of mustard and water, or, if the patient be very plethoric, six or eight ounces of blood taken from the arm will shorten the attack. A few grains of blue pill followed by a saline draught, and subsequently a mixture of potash and lithia with colchicum, will soon relieve the patient. The parts affected should be

brushed with compound tincture of benzoin three times during the day. A little ice kept in the mouth will also be grateful, and a large poultice of linseed-meal should be kept round the neck. Bathing the feet in hot water and mustard is also useful.

In laryngeal affections chlorate of potash should be also added to this general treatment; and in spasm of the glottis, oil of cajaput and ether with colchicum should be freely given.

When the stomach is the part affected, the treatment must comprise oil of cajaput, chloric ether, colchicum, ammonia and stupes, together with counter-irritation by blistering.

In gouty affections of the spine I would advise counter-irritation, which is best used by Corrigan's button applied each side of the spine. Belladonna and colchicum should be the internal remedies used.

The treatment of gouty epilepsy must consist in the use of colchicum, lithia, and morphia. In all the cases I have met there has been a singular regularity in the return of the attacks: in one case, every three months almost to a day; and in another case, every month; the patients remaining free from the disease during the interval. I have likewise observed that a number

of fits occurred on each occasion—sometimes as many as twelve within three days. In such cases I invariably prescribe lithia and colchicum for some days before the attack is expected, and this I have found, in many cases, to ward it off. Immediately after a fit I am in the habit of ordering solution of muriate of morphia and colchicum. Bromide of potash is of no service whatever in gouty cases; but zinc and other metals I have found of service.

In the treatment of inflamed testicle the bowels should be freely cleared with a calomel and jalap purge. The veins of the scrotum should next be freely opened, and the part well fomented so as to encourage bleeding. In this way five or six ounces of blood may be taken. The patient should be kept in bed, and the scrotum supported. A mixture of the three salts of potash and colchicum will completely relieve the pain in a short time.

Cases of gouty psoriasis may generally be relieved by a course of alkalies, with alkaline lotions as local treatment. Arsenic is seldom necessary. Colchicum should always be combined with the treatment.

Gouty eczema generally being of a very acute character, and accompanied with much inflammation

and œdema, the treatment must be active. Having relieved the bowels, a mixture of bicarbonate of potash, and colchicum, alternated with quinine, should be prescribed; at the same time the parts should be well dusted with lycopodium powder, and occasionally washed with lead lotion, or one made by mixing an ounce of very finely levigated calamine powder with two drachms of glycerine, half an ounce of oxide of zinc, and six ounces of water.

In all cases of misplaced gout the feet should be placed in hot water and mustard, subsequently keeping them warm by means of hot jars or flannels.

Nerve tonics, such as quinine, strychnine, and the like, should always be used as adjuncts in every case of misplaced gout; and the general rules found under the treatment of other varieties of gout should be followed.

## CHAPTER IV.

### *REGULAR, OR ACUTE AND RETROCEDENT GOUT.*

IN rare cases, Regular or Acute Gout seizes on its victims without any kind of warning, when apparently in perfect health. More frequently, however, one or more of the premonitory symptoms before mentioned give notice of its approach. In either case the attack generally occurs in the middle of the night, or as day is dawning.

The individual retires to bed, perhaps feeling better than usual, and sleeps, often soundly, for some hours. Towards morning, usually between one and four o'clock, he is awakened by severe pain in the affected part, which in a very large majority of cases is the ball of the great toe. The metatarso-phalangeal joint is the one usually attacked. On examination, however, it presents no unnatural appearance. But in a short

time, while the patient often feels cold, and perhaps shivers, the part becomes red, hot, and swollen. The pain increases until it is well-nigh intolerable, and assumes a throbbing character. The veins of the neighbourhood are distended with blood; the patient, too, is irritable, and cannot bear the least noise, or the slightest weight on the affected part. After some hours of intense torture the swelling increases; a slight moisture bedews the surface, and gradually the sufferer, exhausted, sinks into a short slumber. On awaking, the part is well-nigh purple, swollen, tense, shining, and disfigured. The patient is now in the height of fever; the pulse is quick, full, and often hard, the tongue occasionally thickly coated, the skin dry, the urine scanty and very high-coloured, the bowels constipated, and the fæces often devoid of bile.

In this state the day is passed. As the evening advances the fever and pain become still more aggravated, and the unhappy patient, after an uneasy and comfortless day, passes a restless and well-nigh sleepless night. Towards morning the swelling has considerably increased; and the pain abating, the sufferer sleeps for several hours, and usually awakes much refreshed. Another exacerbation takes place on the

following night ; but on the third day there is considerable relief. The toe is now much swollen and œdematous, and the veins leading from the part are turgid with blood. From this time the pain gradually subsides, the redness also soon disappears, and at the end of ten days the patient is convalescent. As the disease subsides, the affected part usually desquamates.

The foregoing is a description of a mild first attack of regular, or what I would term, acute gout. In more severe cases the disease runs a much longer course, being accompanied by more intense fever and more prolonged suffering.

The pain of gout, which is its first and most constant symptom, is of a most peculiarly agonizing, burning and throbbing character. This latter characteristic often leads the inexperienced to believe that the part is about to suppurate. This, however, never takes place in primary gouty inflammation. Sometimes all the nerves of the affected limb are affected, as shown by severe spasmodic contractions of the muscles, which add much to the patient's sufferings.

The state of the veins is another remarkable feature of the disease. The cutaneous vessels may be seen



uniformly enlarged and turgid with blood, showing the paralyzed condition of the vasa motor nerves of the part.

After the first paroxysm of the disease, the patient is usually free from it for a considerable space of time—often for years. Numerous instances have been recorded where, through moderation and care, even a long lifetime has been spent without a second visitation.

A day or two before an attack the premonitory symptoms usually suddenly disappear. When this happens the fit is not far off. The nervous system, as shown by the condition of the spirits, is invariably affected—sometimes a patient feels unusually cheerful. This Sydenham compared to ‘sunshine preceding a storm.’

D. D., for many years a commercial traveller, living by rule and always in robust health, in 1872 succeeded to considerable property and settled down in Dublin. During the first two years of his metropolitan life he hunted regularly, and had not a single day’s illness. In 1875, becoming an ardent whist player, he gave up his horse, and commenced leading a club-life. From this date he took little or no exercise.

During the next twelve months his life was that of a 'bon vivant.' He consumed a fair quantity of wine, never to excess, but sufficient, almost daily, to place him in 'the exhilarative state.' In 1878 I first saw him. He consulted me for dyspepsia and hepatic congestion. These I warned him were but premonitory symptoms to gout, which was not far distant. I urged him to change his mode of life, and to take more exercise. For a short time he followed my advice, but soon again relapsed into his former course.

One night early in March, in the following year, he retired to rest feeling unusually cheerful, and having eaten his dinner with greater relish that evening than he had for years before. Towards day-break he awoke with intense pain in the left toe. On examining the part, he could not detect the slightest redness or other sign, and he again tried to sleep; but the pain now increased considerably, and was not entirely confined to the joint, but spreading up along the nerves of the extremity, produced severe cramp. It was not long until he was in the most intense agony. The veins leading to the part were now noticed to have become considerably en-

larged; the part itself commenced to swell and was soon tense and shining. The pain assumed a burning and; shortly afterwards, a throbbing character. I saw him at five o'clock in the morning. The swelling had now become considerable, and he told me that the pain was intolerable. His pulse was quick and hard, his tongue was coated, his skin was dry, his stomach was distended with flatulency, and he was restless, uneasy, and fidgety. Half an hour afterwards the pain rather suddenly subsided and he sank into a sound sleep. I saw him again at eleven o'clock in the morning. He had only slept a couple of hours, and awoke to find the toe greatly swollen and the parts about œdematous. The pain was now less severe and more of a burning character. The veins leading from the part were all enlarged and turgid with blood. The skin was somewhat moist, and he expressed himself as greatly relieved. At night the pain again increased, and he had another exacerbation towards morning. On the third night it was somewhat less, and on the fourth morning he was well-nigh convalescent. This case illustrates a first attack of acute gout in which the paroxysm was not cut short with colchicum, inasmuch as the patient

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himself had an aversion to the drug being used, and preferred going through the attack to being relieved by it. This gentleman now made up his mind to follow advice implicitly, with this result—it is now six years since—that he has never had the slightest return, not only of gout but of any other ailment. He takes a Turkish bath at least once a week, and daily riding exercise when the weather permits. He consumes less wine, and follows all the rules I have laid down for him.

In most cases, however, the lesson learnt in the first attack is soon forgotten, and the patient relapses into his former habits. After a variable time he is again visited by the disease, from which he recovers more slowly, but still perfectly. A third attack, however, which follows after a still shorter intermission, usually leaves much stiffness. This is soon succeeded by a fourth; and thus the disease progresses. Each attack now leaves its traces, until at length a time arrives when the patient is never entirely free from the disease, one paroxysm coming on before he has thoroughly recovered from the previous one. At first the toes only are affected; but soon the hands and other parts are attacked. At each recurrence of the

disease deposits of urate of soda are formed about the articulations. These gradually enlarge with each successive seizure, impeding the tendons in their action, contracting the members, and producing much deformity. Depositions are also formed in the blood-vessels, and even the vital organs do not escape. Thus, in the course of years, the malady begins to tell on the whole system. The kidneys assume a gouty condition, the heart becomes enfeebled, the coats of the arteries lose much of their elasticity, and the patient is subject to severe attacks of bronchitis. Occasionally, in making some violent effort, the weakened heart is unable to propel the blood with a strength necessary for the exertion, and death relieves him from all further sufferings. Or his natural strength fails him when labouring under one of the frequent fits of bronchitis, mucus gradually accumulates in the bronchial tubes, and he expires, asphyxiated. At other times the cerebral arteries, weakened by deposit, rupture, and the patient dies of apoplexy, or he may succumb, after a protracted illness, to granular degeneration of the kidneys, followed by dropsy and uræmic coma.

W. O. C., mercantile gentleman, had been subject

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for some years to regular gout, but whom I failed altogether in persuading ever to take sufficient exercise or to follow the rules which I considered necessary to avoid a recurrence of the disease. He had been subject before he came under my care to frequent attacks of weakness. These came on at three o'clock in the morning, and sometimes when he got out of bed. When descending to breakfast one morning he sat down on the stairs, and was found dead.

Another gentleman, a solicitor, who had been for years subject to gout, and whom I failed in persuading even to follow any regular course of treatment, woke during the night with a sensation of weakness, from which a little brandy relieved him. It occurred again at eight o'clock in the morning, and he died in a few moments. In both of these cases the presence of gout was, I am convinced, the cause of the weak condition of the heart which led to their deaths.

My friend, Dr. Donovan, of Kingstown, has narrated to me a most interesting case in which death occurred from apoplexy. This gentleman had several attacks of gout, and he had at different times gouty bronchitis and affections of the eye and ears, as well as other

symptoms, which were undoubtedly of a gouty character. On one occasion, when threatened with a gouty attack, he was seized with bleeding from the nose, which was stopped with some difficulty, but which relieved the inflammation of the toe. In other respects he was perfectly healthy, and not a man that one would suspect to be liable to apoplexy. Dr. Donovan was sent for one morning, and found him insensible, and he died in a few days from cerebral hemorrhage. There was abundant deposit of urate of soda in the vessels.

Thus, it may be seen that when gout runs an unchecked course, it often leads to a fatal termination, but, under proper care and treatment, the affection may be kept in a state that does little to shorten life.

As an attack of gout is passing away, there is usually a copious deposit of sediment found in the urine. The fæces in most instances are copiously coloured with bile. The skin, too, aids much in the general elimination.

Though the patient is somewhat weakened when the fit is subsiding, still he expresses himself as feeling better than before his illness. His mental faculties are also much invigorated. This may be in some measure due to the excitement of the nervous system produced

by the inflammation, but is more probably due to depuration of the blood by the preceding active elimination of the morbid matter, which had been acting as a slow poison upon the sensorium.

The first attack is most usual in spring, between the ages of thirty-five and forty-five. The older the patient the more severe are the paroxysms, and the shorter the intervals.

Occasionally, acute gout, instead of running the course above described, may terminate in metastasis. This is what is known as retrocedent gout. The disease may suddenly disappear from its first situation, and quickly attack some internal organ. The stomach, heart, or head are the parts most usually affected. The patient may find the pain suddenly subside in the toe, or other affected joint, and immediately after he experiences severe cramp in the stomach. This is accompanied with sickness and vomiting, which usually assumes a coffee-ground appearance. In other cases, where the metastasis affects the heart, the patient at first feels a sudden agonizing pain in the cardiac region, with a sense of fainting, and then sinks into profound syncope, from which too frequently he never recovers. Should he, however, do so, he suffers much from severe



palpitation, with great difficulty of breathing, often followed by a severe attack of bronchitis.

Should the head be the seat of the transplanted disease, there is, first, intense pain, quickly followed by stupor. This is usually but partial. A patient so affected very closely resembles a person recovering from concussion of the brain. He lies immovable, with closed eyes, without paying any attention to or without recognising those about him. If spoken to loudly, he opens his eyes, and stares vacantly at the speaker. If told to put out his hand or tongue, he does so. He understands what is said to him when spoken to in a loud voice, but soon relapses into his former stupor. From this state he may gradually recover, or may sink into a state of coma, from which he seldom recovers. On other occasions symptoms of apoplexy are immediately developed.

I was once summoned to the bedside of a man who, after the affected foot had been placed in cold vinegar and water, became suddenly insensible. His wife, who had left him but a few minutes previously, was attracted by his loud snoring, and, being much frightened, attempted, in vain, to awake him. I found him with all the symptoms of apoplexy. After two days of anxious

treatment, he revived; half his body, however, remained for a time paralyzed. From this he ultimately recovered. He has since then (now ten months) been entirely free from gout, which before had been a constant visitor. But the mental faculties have never been as clear as they were prior to his attack. He now lives by rule, and avoids everything which produces the slightest indigestion.

A gentleman in the army was seized with an attack of regular gout. I found it hard to persuade him to remain in bed or to remain quiet when he got a little relief, and he sat up on the second night playing cards. Towards morning he was seized with intense pain in the head, and rapidly became unconscious. Under active treatment he gradually revived.

Gouty mania supervening on the cessation of a gouty attack of the toe has occurred. I have seen one such case, and others have been recorded.

When retrocedent gout has once occurred, it is very likely to recur. Occasionally the disease will seize on several organs at the same time. Thus it is not unusual to find a patient suffering from palpitation, difficulty of breathing, pain in the head and stomach, severe hiccup and vomiting. In those cases I consider

there is far less danger than in that form in which one vital organ alone is affected. In the latter case the life of the patient hangs on the most slender thread. The slightest false step will turn the scale against him, and death will release him from all further pain. Such cases are indeed sad; as a gouty patient too often looks upon his disease as a sort of lease of life, and is seldom expecting to be suddenly summoned before his Maker.

## CHAPTER V.

### TREATMENT OF REGULAR GOUT.

ALTHOUGH it is generally admitted that little progress has been made in the course of many centuries in the pathology of gout, most writers affirm that much has been effected as to its treatment.

It is almost certain that Bayrus, a physician who was himself afflicted with gout, and who lived about the same time as Morgagni, not only cured the disease in his own person with the corm of the *Colchicum variegatum*, combined with other purgatives, but, by undergoing a course of like medicines three or four times a year, effectually prevented its recurrence.

Nevertheless, most of the ancient physicians believed medicine to have but little influence on the disease. Morgagni said that most remedies have either never been at all useful, or at least of very little service, and that some have thrown patients into great danger, or have been the cause of their deaths. Even Sydenham, himself a martyr to the disease, never used

medicine during the fit, and very many recent authors doubt its efficacy.

As gout is a disease due both to the abnormal accumulation in the blood of a substance that ought to have been excreted, and to depression of the nervous force by which this *materies morbi* is held in a condition in which it may be eliminated, it follows that the treatment may be either directed to the excretion of the uric acid or towards restoring the nervous system to its normal condition. The treatment may likewise be either curative or preventive. The latter will be considered in the subsequent chapter.

When gout is seen at an early stage of the paroxysm, while the affected part is painful, red, and swollen, before it becomes œdematous, the treatment should commence with a stimulating emetic. I usually select mustard and water, as its action is speedy, and its result certain. A dessert-spoonful of the former in a pint of the latter will generally be sufficient. This quickly produces vomiting, and, by stimulating the whole nervous system, affords the patient a considerable sense of relief. If from any cause mustard be inadmissible, sulphate of zinc may be substituted.

As an emetic of this kind does not weaken the

patient, but, on the contrary, stimulates, it may be used even when the subject is aged, or the disease is of an atonic character. In the former case, however, it is proper to insist on the patient taking subsequently such copious draughts of tepid water as will effectually prevent straining in the act of vomiting. From frequent observation of fits of gout—some treated in the earlier stage in this way, and some without the emetic—I have a strong conviction that cases where the treatment is so commenced are much shortened, and have much less tendency to become chronic.

A few grains of calomel, or blue pill combined with compound rhubarb pill, should next be administered. If necessary, this may be followed by a purgative draught of senna, rhubarb, or magnesia. This not only clears out the often loaded bowels, but also relieves the almost congested liver, and aids in eliminating the *materies morbi*.

In some cases where the kidneys are much diseased, calomel or blue pill must be omitted or sparingly used. Garrod says he has seen two grains of the former salivate such a patient. Taraxacum, with aloes or colocynth, may be used when preferred.

The next step I would recommend in the treatment

of gout, in plethoric patients, would be the abstraction of three to six ounces of blood. There is, unfortunately, a great prejudice against venesection. Nevertheless I am convinced that, not only in this, but also in many other acute affections, much good would result from the use of the lancet. The first time I had experience of its effect in gout was when summoned to an hotel in Dublin to visit an elderly gentleman, whom I found suffering from the acute form of the disease. He was sixty-five years of age, but yet so strong and healthy-looking that I should not have thought him to be within twenty years of that age. It was his first attack, and when I informed him of the nature of the affection he requested me to bleed him. I explained that it was very unusual to use the lancet with men of his age. However, having been repeatedly bled when young, he insisted upon the operation being performed. I reluctantly complied. Much against his will, I stopped the flow from the vein when I had taken but five ounces. The pain, which was most acute before the operation, rapidly subsided; and though it returned in mitigated form, yet in four days this gentleman left Ireland without the slightest trace of the disease. Since that occasion I have used venesection in a large number

of cases, and with such results that I can confidently recommend its adoption as part of the treatment in all cases when the patient is of a plethoric habit. It invigorates and serves to restore the nervous energy. Gairdner also recommended such bleeding. He believed that, instead of being debilitating in its effect, it may be ranked with tonics, on account of the cheerfulness, energy, and sense of power it suddenly restores to persons oppressed by a state of plethora.

Attention must next be directed to regulating the diet. Animal food and stimulants should, in most cases, be forbidden, at least during the earlier stages of an attack. If, however, from the general debility of the patient, stimulants of some kind are found necessary, old Irish or Scotch whisky and gin are the least injurious. After these rank the lighter French wines. Beer, ale, porter, champagne, sherry, and port are particularly to be avoided. The system should not be weakened by a too-restricted diet.

Some kinds of vegetables seem of great use. Amongst them may be mentioned well-boiled onions, garlic, slōke, salsify, celery, and celeriac. Beef-tea, semolina, arrowroot, porridge, flummery, sago and milk, may all be used in keeping up the patient's strength. The



drinks most suited are lemon-juice with water or soda-water, alkaline mineral waters, especially lithia-water, with or without milk, and toast or barley-water. Cantrell and Cochrane's ginger-ale is a most agreeable drink for a gouty patient, and its aromatic qualities are most beneficial in allaying the undue flatulency, which is often severe. If this and similar drinks contained less sugar, they would be a valuable adjunct in the treatment of gout, as patients often will consume quantities of them when other fluids are distasteful. Cane and beetroot sugar, being most injurious, must, however, be only very sparingly used.

The internal treatment should consist of alkaline mixtures, as diuretics and diaphoretics. Of these, potash is the most general in use; but citrate of lithia, in my opinion, is the best. Some use the carbonate of lithia, but being a less soluble salt, it is very much inferior to the citrate. At times I have found benefit from combining this preparation with the salts of potash. The carbonate, citrate, tartrate, and nitrate may be used separately or combined.

After this treatment has been pursued for a little time, the attack may be quickly relieved by a dose of colchicum. Against this medicine there is a great and,

perhaps, unjust prejudice. It is believed that, though it relieves the attack for a time, it renders the system more liable to a speedy return of the disease. That this is an error—if the drug be used judiciously—I have no doubt. Many who have been relieved by colchicum, knowing its apparently magical influence, are apt to use it too early in the attack, and are less cautious in exposing themselves to the dangerous occasions, and indulging in those luxuries which produce the disease, than those who, unrelieved by this medicine, have been obliged to endure the unmitigated pain. I believe colchicum, especially in small doses, to be a nervous stimulant, and as such, acting on every organ in the body, is at the same time a purgative, diuretic, and diaphoretic. Its too frequent use, like that of any other stimulant, tends to produce disease of the vital organs, especially the heart, as well as to exhaust the nervous system. It may, however, be used without fear at the later stages, in the first few attacks of the disease. It is probably better practice not to use it during the first couple of days, until the organs of elimination are relieved from their well-nigh congested condition. Experience has shown me that when used during the first forty-eight hours, although the attack

is relieved, the disease returns with a much shorter interval. *Colchicum* relieves, but does not cure gout; it merely adjourns the attack. In my experience, it is best to administer it in combination with an active purgative. Colocynth, rhubarb, magnesia, or senna may be used. Although large doses with considerable intervals relieve the acute pain much more quickly, still small and frequent doses, by allowing other remedies to neutralize and remove the uric acid, are of far more service in helping to cure the affection. Some, however, think it an advantage to use large doses of colchicum at the commencement of an attack. Of this treatment I cannot approve.

There is *no other medicine* known which acts as a specific to the pain of gout, and all the quack remedies which do this contain colchicum.

J. S., a gentleman of sedentary habits, whom I had attended in some ten previous attacks of gout, while in the agony of a seizure, was most attentive to instructions, but like most other such patients, as soon as the pain ceased, relapsed into all his former habits. The consequence was that almost regularly three times in the year he had an attack of regular gout. These I generally relieved on the morning of

the third day with colchicum. In November last he had his usual visitation. He sent for me on the first sign of the attack, and implored to be relieved at once, as he was obliged to keep an appointment on the following day, which would be a heavy loss to him if he were not able to do so. I ordered him a combination of colchicum, ipecacuanha, and colocynth, which acted instantly, and before night the attack was over. It returned, however, in fifteen days. He then, without my sanction, used the same prescription, which again relieved him; but in eleven days he was once more seized with increased violence. He then had recourse to a much-vaunted quack medicine, advertised *not to contain* colchicum, which had been brought to him by a friend, and this had exactly the same effect as the colchicum draught, and he was soon free from pain. Eight days later I was summoned to his bedside, to find the other toe the subject of a fresh attack of acute gout, which I treated during the first two days without colchicum, and then with small doses of the drug. The result of this has been that now six months have elapsed without a return. This is only one of a large number of cases in which the disease returned after a short interval when colchicum was used in the early

portion of an attack. Towards the end of a paroxysm, colchicum may be beneficially combined with Battley's sedative, or solution of the muriate of morphia.

At one time I had great hopes that hydrate of chloral would have proved as effectual as colchicum. The first occasion on which I employed this drug was in the case of a master butcher, a free liver, who had been frequently within the previous year visited by the disease. I had attended him for the first time in his former attack, and his suffering had been so intense that I relieved him on the second day of the disease with a dose of colchicum. On the last occasion I was not summoned until he had already been suffering for two days. I ordered him three draughts, containing hydrate of chloral. After taking the first the patient was excited. After the second he fell into a deep sleep, from which he did not wake for seven hours. He was then entirely free from pain. The following night, however, he had a relapse, but the remaining draught gave him permanent relief. About six weeks after, I was sent for during the night, and found my patient in a state of great excitement. He had been seized a few hours previously with gout, and, remembering the relief he had experienced from the draught, sent for, and

immediately took, a similar one. No sooner, however, was it swallowed, than he became so much excited that he could with great difficulty be restrained in bed. He slept soon after I saw him, and the fit proved much shorter and milder than was usual.

Since this case, I have repeatedly tried the drug, and invariably with this result,—if administered early in a paroxysm, it only excites the patient, but does not relieve the pain. Later it is most useful, as it usually relieves the pain to a considerable extent, and shortens the attack.

As soon as the fever attendant on the earlier stages of the disease has abated, it is most desirable, by means of a heated room or Turkish bath, to compel the skin to aid in eliminating the *materies morbi*. The temperature used for the purpose should not exceed  $130^{\circ}$ , and the patient should remain in the bath for a considerable time each day.

It has often been doubted whether uric acid can be eliminated by the skin. Being convinced by personal observation, and by the fact that even the most gouty are comparatively free from the disease in summer, when the skin is constantly moist, that such a result was attainable, I resolved to ascertain the

truth of my conviction. An occasion soon offered itself. A patient, who was constantly subject to the disease, consulted me, having for some days past had the usual premonitory symptoms of the paroxysm. I ordered him to take a Turkish bath, and commissioned the shampooer to collect the perspiration. About three ounces were accordingly sent to me. This I evaporated, and tested by Garrod's thread test. I was, however, much disappointed in not finding crystals deposited thereon. The evaporation was still continued, and the residue treated with nitric acid and subsequently with strong liquor ammoniæ. This test left me in little doubt; for the peculiar red colour, indicating the presence of urates, was distinctly seen. Thus encouraged, I first tested some serum of my own blood; and finding abundant proofs of the existence of uric acid therein, I spent three hours in the 'Hammam.' With the assistance of the shampooer, I there collected nearly a pint of the cutaneous secretion. From this, after evaporation, I obtained abundant crystals of uric acid, but none of urate of soda. Since that time—now twelve years—I have frequently found uric acid in the perspiration, and am now convinced that it is through this channel that most of this

substance is eliminated when the kidneys are even functionally deranged.

Dr. Garrod, however, even in the last edition of his work, states that a healthy skin does not possess the power of eliminating uric acid, even when the blood is freely charged with it. This fact is of some practical importance; but as his experience is directly in contradiction of mine, I was anxious to place the matter beyond all doubt. I therefore commissioned James Roden and Daniel Reardon, the two well-known shampooers in the Turkish baths in Lincoln Place, to collect for me some two quarts of the cutaneous secretion from different bathers, avoiding, however, any of those who had any gouty concretions or deformities, thus preventing the error which might arise from getting some of the chalk-stone deposits on the surface with the perspiration. Most of the persons from whom this was collected were gouty subjects, but were not at the time suffering from the disease. It was collected by means of a scoop, somewhat of the shape of a watch-glass, and was placed in a perfectly clean bottle. When it came into my possession, I divided it into two portions: one I myself evaporated to dryness, and had little difficulty in satisfying myself that it



contained uric acid. The other bottle I sent to Dr. Charles Tichborne, the eminent analyst, a copy of whose report I annex. I forwarded at the same time a bottle containing the perspiration collected from one of the shampooers.

REPORT ON AN ANALYSIS OF PERSPIRATION.

BY CHARLES R. C. TICHBORNE, LL.D., F.C.S., M.R.I.A.,  
Fellow of the Institute of Chemistry; Lecturer on Chemistry,  
Carmichael College of Medicine; and Late Examiner in  
Chemistry, University of Dublin; Chemist to the Apothecaries'  
Hall of Ireland; President of the Pharmaceutical Society of Ire-  
land.

April 25, 1885.

MY DEAR SIR,

On the last occasion you sent me two bottles of sweat, one full and the other about three-quarters full. In the latter bottle I have got well-marked indications of uric acid. The test upon which I relied was the murexide reaction. The quantity was very small, and I intend to try and estimate the amount.

Yours very truly,

C. R. C. TICHBORNE.

A. MELDON, ESQ., M.D.,  
15, MERRION SQUARE.

Subsequently I received the following :

May 2, 1885.

DEAR DOCTOR,

The sample on analysis gives the following per 1,000 parts :

|                                                                                                                                             |       |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Fat - - - - -                                                                                                                               | 0'06  |
| Coagulable albumenoids - - - - -                                                                                                            | 0'15  |
| Urea - - - - -                                                                                                                              | 0'21  |
| Extractive soluble in alcohol, and chiefly consisting of lactates and acetates - - - - -                                                    | 3'10  |
| Extractive soluble in cold water - - - - -                                                                                                  | 2'40  |
| Extractive insoluble in cold water, chiefly consisting of uric acid - - - - -                                                               | 0'02  |
| Salts consisting of chloride of sodium, with small quantities of the phosphates and sulphates of the alkalies and alkaline earths - - - - - | 2'13  |
| Insoluble epidermis, etc. - - - - -                                                                                                         | 0'21  |
|                                                                                                                                             | <hr/> |
| Total solids per 1,000 parts - - - - -                                                                                                      | 8'28  |

In another determination I procured from 10 fluid ounces '031 of a grain of insoluble substance, which gave the murexide reaction well, and seemed to be fairly pure uric acid. It is curious to observe the presence of nitrates in this secretion. It is just possible that its presence may be accidental, and therefore requires verification—as I did not notice it until I was operating on the last specimen. The diphenylamine reaction gave a marked indication of this acid without

concentrating it ; and if you have another sample I can at once determine this point.

Yours very truly,

C. R. TICHBORNE.

Immediately on receipt of this report I obtained another quart of the perspiration from a gouty subject, and forwarded it. A few days later I received the following :

May 25, 1885.

DEAR DR. MELDON,

The last specimen of sweat you sent gave, like the previous one, a marked indication of nitric acid in combination, on applying the diphenylamine test ; and also, without concentrating it ; I endeavoured to estimate it by Schulze's method, it being the most applicable. For this purpose the ammonia had to be estimated. I give you the results below.

I am of opinion that sweat is much more complicated in character than the analyses given in Simon's and other works on pathological chemistry would show.

The specimen gave :

|                                                            |     |   |   |   |               |
|------------------------------------------------------------|-----|---|---|---|---------------|
| Ammonia                                                    | -   | - | - | - | ·03 per 1,000 |
| Nitric acid (calculated as N <sub>2</sub> O <sub>5</sub> ) | ·01 | „ | „ |   |               |
| Uric acid less than                                        | -   | - | - | - | ·01 „ „       |

I should mention that there are many substances which disguise the presence of small quantities of uric acid: amongst others, glucose, lactic acid, etc.

Yours very truly,

C. R. C. TICHBORNE.

Had I, however, been unable to have found uric acid in abundance in the cutaneous secretion, the very fact that so many patients are relieved through its action from the disease would be proof enough. I do not think that there is a single practical physician who has not over and over again met with cases where the Turkish bath alone relieved gouty attacks or prevented their recurrence.

A short time since it became my duty to examine a well-known solicitor in this city for an insurance company. He had been subject for some years to regular gout, yet he was singularly free from all traces of the disease. His blood was apparently free from uric acid, and the urine was not of a gouty character. He was able to take a fair amount of exercise. His only stimulant was a small bottle of champagne at dinner. There was not the slightest sign of stiffness about the joints, and the toes which had been so often

affected were entirely free from deposit. The only treatment this gentleman ever adopted was the Turkish bath, and this he looked upon as a specific, as it had invariably checked the disease when it showed the first signs; and if from any cause he neglected his usual baths, he was certain of an attack of his old enemy. Sitting up late at night, or anything which would in the least depress his nervous system, he found to be the principal exciting cause of the disease. He never took medicine, with the exception of an occasional mild purge.

J. Y., a gentleman of ample means and no occupation, who had led a sedentary life for some years, became a martyr to regular gout. The disease seized on him every two or three months for several years before he came under my treatment. Finding it was impossible to persuade him to take exercise or undergo any course of medicinal treatment, I strongly advised him to use the Turkish baths twice each week. This advice he followed, with the result that in a few weeks he was perfectly free from all traces of gout. Four years have elapsed, and he has never had the slightest return of the disease.

J. H., a mercantile gentleman, a free liver, who also suffered from acne rosacia and led a sedentary life,

suffered from regular gout. I attended him on some thirty occasions when he was seized with paroxysms of the disease. Some four years since I urged him, as a prophylactic, to take a Turkish bath every Saturday evening. In six weeks he was perfectly free from all traces of the affection, and has never since had a single attack.

I have not only found uric acid in the cutaneous secretion of every gouty case where I could procure a sufficient quantity to examine, but I have also found it in spots of acne. In one instance, that of a gentleman who had suffered for several years from regular attacks of gout in the toe, and whose blood was loaded with uric acid, I obtained a considerable quantity of the contents of spots of acne simplex and of acne punctata—comedones; and, on testing this, I found it to be rich in uric acid.

I think it well to establish this power of the skin to eliminate urates beyond doubt, as it influences very considerably the treatment, especially where the kidneys are slightly diseased. I am strongly of opinion that uric acid can be eliminated by either the kidney, skin, or bowels.

Among the gouty patients whose perspiration I frequently tested, was one who had repeatedly been

attacked with the regular form of the disease. The secretion from his skin was usually neutral or slightly acid. He ceased to be my patient for a considerable time, when one day the shampooer from the 'Hammam' in Sackville Street, Dublin, brought me about three ounces of very muddy-looking perspiration. He told me that the gentleman above alluded to had taken a bath that day, and was looking very ill. The litmus-paper soon showed me that the secretion was highly alkaline. A few days after, this man died of typhus fever.

Towards the close of an attack, the treatment should be directed, by means of tonics, especially those which are considered nerve tonics, to restore tone to the whole system. In this way much may be done to prolong the interval between the paroxysms. I usually commence with small doses of quinine once a day, increasing gradually both the frequency and the quantity of the dose. After ten days of such treatment, unless there is something to contra-indicate its use, I usually order the patient small doses of the triple phosphate of iron, quinine, and strychnia. Sometimes, however, when, from the tendency to plethora, I did not wish to use this combination, I have tried sulphate of nickel or sulphate of zinc

with good effect. Both of these I consider excellent nerve tonics. Phosphorus is often of great use.

In conjunction with internal treatment many local applications are of service. Aconite and belladonna are often useful. All kinds of strong spirits applied externally relieve the pain. The popular remedy consists in rubbing whisky on the painful joint, and I know of no more powerful agent in affording ease. Powdered elm-bark poultices often have a soothing effect. Cotton wool is also much used. But perhaps the best local application is a piece of lint, soaked in a saturated solution of citrate of lithia or soda, applied hot. This should be followed by a lotion of tincture of opium and tincture of the seeds of colchicum, covered with a piece of oiled silk. A mash made of poppy-heads and camomile-flowers will likewise often be of service in giving relief. Blistering and the moxa have been recommended, but can only be mentioned to be condemned.

In cases where much stiffness and pain remain when the acute disease has passed off, I have found a liniment composed of iodine and iodide of potassium most efficacious, or an ointment of chaulmoogra oil.

In all cases of metastatic gout our chief reliance must be placed on derivatives and counter-irritation,



in conjunction with the treatment advised in the chapter on 'Misplaced Gout.' If the stomach be the part affected, turpentine stupes should be at once applied, followed by the application of a mustard-leaf or cataplasm. The feet and legs should likewise be well reddened with mustard. Stimulants in such cases are seldom necessary. Sometimes, however, the patient seems so much benefited by them, that when the heart's action is weak they may be used. A subcutaneous injection of ether is the best form for a medicinal stimulant. Solution of the muriate of morphia may be injected hypodermically.

I was summoned to see a lady who was the subject of this variety of gout. The disease had subsided suddenly in the hand, which had been inflamed on the day previously, and she was soon after seized with severe cramping pain in the stomach. I saw her half an hour afterwards; she was then vomiting, and firmly believed that she had been seized with true cholera. I immediately injected 16 minims of solution of morphia subcutaneously, placed her feet in hot water, and applied a turpentine stupe to the abdomen. In three-quarters of an hour afterwards she fell asleep, and on awaking next morning was entirely free from the disease. In the course of the

day, however, it attacked the instep, and ran a three-days' course.

When the affection attacks the heart, in most cases the abstraction of three or four ounces of blood, blistering, together with colchicum and chloric ether, will relieve. But if the heart's action be feeble and very rapid, chloric ether, ammonia, and stimulants will be the proper treatment. In very severe cases nitroglycerine is a most valuable remedy. I have used this drug in several cases of misplaced gout, and I believe it to be second only to colchicum.

In metastatic gout to the head, a stimulating injection, mustard to the calves of the legs, and a little colchicum, combined with some powerful purgative, will give the patient the best chance.

Before concluding this chapter, it may be interesting to briefly glance at the treatment of other authors. Ancient physicians, who had any faith in the medicinal treatment of gout, placed their reliance on purgatives. And in every generation, even to the present day, physicians have been found to recommend the entire treatment of gout to consist of drastic purgatives. I believe that nature sometimes selects the intestinal canal as the channel through which to eliminate the poison,

but in general it is only used as an adjunct. Much purgation tends to weaken a patient to such an extent that the disease is often left in such cases as atonic gout.

Many have also advised copious and oft-repeated bleedings. This, however, is a dangerous practice.

Calomel has likewise been much lauded by those who consider gout to be due entirely to deficient action of the liver, and some have modified this treatment by administering small doses of mercury each day, combined with other treatment. My own conviction is that, early in an attack of the regular gout, small and occasional doses of calomel are highly beneficial; but later, I think the drug is usually injurious.

Tonics have been, from the time of Sydenham, much used in the after-treatment of gout, and no doubt can exist as to their utility.

Diuretics have of late years formed the foundation of the treatment generally adopted.

All the quack medicines contain colchicum in some form or other.

The Portland Powder consisted of birthwort, gentian, germander, and the top of the lesser centaury.

## CHAPTER VI.

### *CHRONIC GOUT.*

WHEN acute gout is developed in a part, there is always a deposit of urate of soda, which in the early seizures is completely absorbed. I know this assertion is denied by most authors, who hold that even the first attack leaves some permanent trace behind it. In this belief I, too, commenced professional life. I have since, however, had the opportunity of making several post-mortem examinations in cases where the subjects had suffered from gout, and in which I could not find the slightest trace of the disease in the parts which had been affected.

A young man was brought to Jervis Street with a shattered limb, in 1878, which necessitated amputation. He had had five attacks of acute gout in the ball of the great toe, which was now removed. A most careful examination failed to detect the slightest deposit in or about the joint.

A carpenter who had been under my care some three months before with acute gout in the toe, and subsequently in the ankle, received a wound from a chisel which penetrated the knee joint. To save his life, secondary amputation had to be resorted to; the toe and ankle were carefully examined, but not the slightest sign of gouty deposit could be discovered.

A brewer's porter, over whose foot the wheel of a heavily laden float passed, was brought to Jervis Street Hospital, where I performed Syme's amputation. Inquiry into the history of this man showed that he had had three fits of gout in the toe of the injured foot; no trace of uric acid or urate of soda could be discovered. In a case before narrated, although the kidneys contained some deposit and were slightly enlarged, no urate of soda could be detected about the joints which had previously been affected.

Such cases as these, together with careful clinical observation, satisfy me that in most cases in the early attacks, especially where proper treatment has been adopted, no permanent injury is done to the joint, but the deposit is rapidly absorbed. Notwithstanding this, the disease seems to render the joint less sensitive and better able to bear the presence of the 'foreign bodies';

thus each attack produces less inflammation, and consequently the urate of soda remains longer without being absorbed. Sooner or later, when the paroxysms become frequent, one fit succeeds another so rapidly that the trace of the first has not been removed before the next follows.

In regular gout the attacks at first occur with a lengthened interval of six, nine, or even twelve months. As the line between acute and chronic gout, however, is approached, if the disease goes on unchecked, the intervals become shorter, two or even one month seldom passing without an attack; and a time soon comes when there is always tenderness, swelling and pain of the affected part, the latter perhaps not severe, but being constantly present renders life very miserable. A few summer months are now the only ones in which the unfortunate patient is free from exacerbations. The parts are always swollen and stiff, but seldom hot or red. The patient is often troubled with flatulency, pyroses, neuralgic pains, irregularity of the urinary secretion, constipation, and cramps. Severe palpitation and a sense of uneasiness about the heart is of frequent occurrence, and pain in the stomach, often of an acute character, is

present; peevishness and low spirits are concomitant. Sugar is sometimes found in the urine, and at times a trace of albumen. Cutaneous sores or boils occur on either the body or the limbs. Erythema intertrigo, accompanied with its disagreeable odour and severe scalding pain in the groins, is of frequent occurrence. During this time the tissues which have thus been the seat of repeated fits of gout are left stiff, tender, and infiltrated with concretions. These principally consist of urate of soda, and constitute when about the joints and tendons what are known as tophi or chalk-stones, and sometimes produce inflammation and ulceration, or even suppuration in the neighbouring parts. These deposits at first increase only with each paroxysm of the disease, but when the system becomes thoroughly gouty, accessions are continually taking place, without the slightest pain or other symptom. Ultimately the skin which covers them gives way, and the so-called chalky mass is exposed. This is what is known as chronic gout.

Chronic gout is generally at first confined to one joint, but after a time nearly all the small articulations of the limbs become affected. The stiffness is at first due to deposit round the articulation, and not in the

joint itself. After a time the articular surfaces are affected, and then the joint occasionally becomes completely ankylosed. In most cases, however, true ankylosis does not take place, nor is the joint destroyed.

My note-book contains a large number of cases where there was much deformity and stiffness for years, and still a complete recovery has taken place. One case in particular, in which the most careful examination convinced the medical man who saw it that the joint was beyond recovery, ultimately recovered, and is now perfectly free from all traces of the disease. This and several other remarkable cases I have narrated in the chapter on prognosis.

The simplest form of gouty deposits consists of little white spots, which are often found in the helix of the ear, and at times in other parts of the body. I have found them on the chin, shoulders, and forehead. These consist of urate of soda, at first in a fluid condition resembling milk or cream in consistency; soon the fluid portion becomes absorbed, leaving little solid white masses. It is more than probable that the gouty deposits round the joints are of a similar nature and deposited in the same fluid condition, subsequently becoming solid by absorption of the more fluid portion.



These deposits, or tophi or chalk-stones, as they are called, contain at least fifty per cent. of urate of soda, the remaining portion being made up of urate of lime, chlorate of sodium, phosphate of lime, cellular tissue, water, etc.

*Treatment of Chronic Gout.*—Important as is the diet of a patient suffering from the other forms of the disease, it is all-important in the treatment of chronic gout. Far more depends on the diet of the sufferer than on the medicines used. Even the ancients recognised this. Galen said that it was impossible to cure those who indulged themselves in eating and drinking, as, by their intemperate habits, they were adding to the disease. Sydenham remarked that remedies must be accompanied with great care in diet, to be of any service, in order that the stomach may receive no more food than it can digest, and no fresh fuel be added to the disease; and even Cullen believed in proper attention to diet. If a patient with chronic gout desires to recover, he must adopt a simple, easily digested dietary, avoiding everything known to be indigestible, and everything which his own experience tells him would disagree with him. He should remember Sir William Temple's recommendation, 'Simple diet, limited by every man's

experience of his own digestion, and thereby proportioning, as near as can be, the daily repairs to the daily decays of our wasting system.' All these articles forbidden in the treatment of regular gout must be carefully avoided. Sugar in every form is to be forbidden; consequently, all beer, porter, and wines, which contain free saccharine matter, are most injurious.

Next the diet comes the most important subject—exercise, which must be taken regularly. If walking exercise cannot be taken, then riding or even driving exercise. Fresh country air is of great use, and everything which tends to take the mind off business or raise the spirits helps recovery. The bowels should be moved daily, and once weekly a very small dose of blue pill, followed by half a tumblerful of one of the natural purgative waters, should be taken.

The skin, which is usually dry and devoid of all secretion in chronic gout, should be acted on by means of the Turkish bath. Few people at first know how to take a Turkish bath, and the attendants are too few to instruct such new-comers. The medical attendant ought, therefore, to give his patient a few directions. On entering the bath it is well at once to be rubbed down with the plush brush, and washed by the attend-

ant. The soap softens the cuticle, and the friction stimulates the cutaneous circulation. The patient should next be douched with warm water from the shower, and after this he should be well dried, and then lie quietly during the rest of the bath. There is no case in which the bath may not be taken. If a patient's heart is weak, and he is nervous entering, he should remain at the coolest portion of the room and only stop for a short time; another light washing at the termination, followed by the shower and needle bath, but avoiding much cold water, and dressing before he becomes chilled. During the entire time copious draughts of either apollinaris, lithia, or plain water should be taken every ten minutes. The cold plunge should never be taken by a gouty patient.

The affected joints should be well hand-rubbed every day. Decoction of ash-leaves, of elm bark, and of barley-water, taken in considerable quantities, are useful adjuncts. A patient suffering from chronic gout should take daily small quantities of citrate of lithia. This is best used in conjunction with chloride of sodium. A teaspoonful of the citrate of lithia mixed with two tablespoonfuls of the best chloride of sodium, and used as common table salt, is a ready method of taking this

drug. Quinine may be used in one or two grain doses two or three times a day. Chlorate of potash taken daily for some time is of immense service. The drug seems to act by supplying oxygen to the blood. Arsenic I have frequently found of use.

Some authors have recommended a strictly vegetable diet. Of this I cannot approve. I have seen it tried, but seldom with good results. Milk diet has also been recommended, and some affirm that it has done much good; but my experience is that all gouty subjects require a fair amount of animal food, and if they are deprived of it their nervous system becomes depressed, and all chance of recovery is removed. All fresh fruits are serviceable; and grapes are undoubtedly of much use in chronic gout. Rhubarb is said to make many patients worse. Lemon-juice is most serviceable. Tea and coffee I have found of service, but green tea should be avoided.

The clothing should be warm and sufficient to prevent the surface of the body from being chilled; and I would strongly advise flannel to be worn next the skin.

The condition of the mind is of the utmost importance in treating chronic gout. I have known several cases in which the giving up a professional life and retiring to the country has completely cured patients who

were greatly deformed with gouty deposits. On one occasion a gentleman who had been for five years a great sufferer from chronic gout, and in whom almost every joint in the body had been affected, retired from his business under my advice and took to farming in the country. At first he could only move out in a Bath chair; after a time he was able to get into a low brougham; and now, after three years, he is able to walk about his farm as well as a man thirty years younger. The deposits about the joints have considerably decreased; and I have no doubt, although he is seventy years of age, that before he dies all traces of gout will have disappeared from his joints. Several other remarkable cases I have narrated in the chapters on prognosis and pathology.

I would advise a tumblerful of hot water, as hot as possible, to be taken immediately on lying down in bed at night. This seems to act both by increasing the digestive powers and thus digesting any food that remains in the stomach, and causing a secretion of bile and pancreatic fluid into the duodenum.

I consider the best local treatment for chalk-stones or deposits consists in applying chaulmoogra ointment when the skin is unbroken, and when ulceration has

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taken place alkaline solutions or carbolic-acid ointment. Sometimes small tophi can be excised. Saturated solutions of lithia is the application most generally used.

## CHAPTER VII.

### *PATHOLOGY AND CAUSES OF GOUT.*

THE condition of the liquor sanguinis is of the first importance in the production of this formidable malady. The disease cannot be developed unless the blood contain a considerable quantity of uric acid and soda in some form. Thus far the uric-acid theory is correct. But, in my opinion, it is an error to suppose that these two exist in combination before an attack of gout: the moment they combine, the disease is produced. In those who are predisposed to the affection, the union of soda and uric acid is prevented by the influence of the nervous system. When, from any cause, the nerve-force is suddenly lessened, uric acid seizes on the soda, forming urate of soda. This takes place in the tissues. The minute crystals soon irritate the sympathetic nerves of the part, causing very temporary contraction of the vessels and considerable pain. This anæmia is but

momentary, and soon gives place to active congestion, followed by venous congestion and all the phenomena of gouty inflammation.

The irritation produced by the disease excites the nervous system to unusual energy; the temperature rises, the heart beats with increased frequency, and a greater or less amount of fever is set up. The intravascular pressure causes abundant exudation from the distended vessels, which distends the lymph-spaces in every direction, and consists principally of serum with a few white corpuscles. This exudation does not, as in ordinary inflammation, coagulate spontaneously, but soon, under the influence of the nervous system, redissolves the particles of urate of soda, upon the disappearance of which the pain subsides. The very temporary character of the irritation and consequent injury to the part allows the tissues involved speedily to recover from this condition of low vitality, and the vessels quickly recover their wonted elasticity; the exudation soon finds its way into the circulation. The increased flow of blood has already stimulated the almost congested organs, and the kidney, liver, and skin now aid one another in eliminating the uric acid. Thus the fit passes off, leaving the



nervous system in a more energetic condition than before, the mental faculties clearer, and the patient himself in a far better state of health than previous to his illness.

According to this theory, the links furnished by Cullen, Gairdner, and Garrod may all be developed and united. Thus, to my mind, is formed a perfect chain of evidence as to the nature of this important affection.

In youth, before care, anxiety, and disappointment have well-nigh worn out the brain, the nervous system is active ; and, in spite of dissipation and indulgences of all kinds, gout is rare. But, as soon as age and care lay their mark on the great nerve-centre, gout but too often appears.

Then also the stomach refuses to digest all that is presented to it. Food, which before could be taken with impunity, now produces dyspepsia. The bowels become constipated, the liver sluggish, the skin is seldom moist, the urine is scanty, and the patient feels disinclined to make the slightest exertion. His desire for food still continues. Stimulants are used to assist digestion. Gradually the blood becomes loaded with lithic acid ; and, as the nervous power

becomes less, very minute particles of urate of soda are deposited, causing slight irritation and passive congestion. This gives rise to more or less pain, often in the stomach, for which brandy is generally administered. This, by stimulating the heart, removes the congestion, and so stifles the warning given by Nature.

If these attacks occur in the muscles or other parts of the body, they are usually called neuralgic, or rheumatic pains, and are what I have classed as premonitory symptoms. But if they are so severe as to occasion very much suffering, they constitute the variety which is known as anomalous or irregular gout.

The presence of lithic acid in the blood forms what is known as the lithic acid diathesis, and is undoubtedly the predisposing cause of the disease. The combination of this acid with soda, which is produced by nervous depression, is the exciting cause of the affection. If only congestion results, the disease is anomalous or irregular gout. If inflammation be produced, it constitutes, according to its situation and subsequent phenomena, the atonic, misplaced, regular, or metastatic form of gout.

The causes of the disease may be either those which tend to the accumulation of uric acid in the blood, or those which produce nervous depression. There are, however, many things which produce both effects.

The disease is said to be hereditary. Undoubtedly the habits, tastes, conformation of the different organs, and so forth, often descend from father to son, and even through generations. It is very probable that in this lies an explanation of the hereditary nature of gout. By care, exercise, and moderation, the hereditary predisposition can *always* be overcome.

It is now generally supposed that all the albuminous substances which enter into the blood are converted into uric acid. This is eliminated from the body, after oxidation, as urea, carbonic acid, and water. Dr. Bence Jones writes: 'The number of substances that are formed between albumen and urea are vastly more than between starch and sugar; but whatever their number, there must be an antepenultimate; and uric acid is the penultimate, and urea the ultimate product of oxidation. Hence there are two ways in which an excess of uric acid may occur in the blood and textures: first, from the excess of animal or vegetable albuminous food entering the system—*i.e.* from ex-

cessive production; and, secondly, from an arrest of oxidation—*i.e.* from want of destruction. Of course the greatest accumulation of uric acid will occur when the albuminous food is excessive, and when at the same time the oxidation is least. Even if no excess of albuminous food be taken, yet if the oxidizing action is deficient, uric acid may accumulate in the serum, and it will immediately diffuse even into the bloodless textures. On the other hand, an excess of albuminous food may be taken, and accumulation of uric acid in the blood may occur. It is therefore evident that there are two modes of preventing the gouty diathesis: first, by diminishing the amount of animal and vegetable albuminous foods; and, secondly, by promoting oxidation. In other words, the smallest amount of food, and the greatest amount of air, are antidotes for the gouty diathesis. If an excess of fresh air is taken whilst a large quantity of food is eaten, these cause no gouty diathesis as long as the antidote (oxygen) destroys the *materies morbi* (urates, or substances out of which the urates are formed).'

From this it will be seen that anything which lessens the free oxidation of the blood will be a cause of gout. Hence, we find want of exercise one of the most

frequent occasions of the disease. Many notable examples are on record where the mere change in this one particular effected a cure. My own note-book furnishes many such cases.

About two years ago I was consulted by a gentleman in the army. Although but thirty-two years of age, he had experienced no less than three attacks of regular gout within the previous twelve months. He had always been accustomed to an active life. But, having been stationed for some time past in places where there was little inducement to take exercise, he had acquired sedentary habits, seldom leaving his quarters, except when compelled to do so by professional duties. When I first saw him, he was much depressed in spirits, complained of loss of appetite, indigestion, and other disorders which usually affect the gouty. With the aid of medicine those urgent symptoms were soon relieved. I confined my further prescription to early rising and two hours' active exercise daily. This he followed perseveringly. At the end of some eight months I again saw this gentleman. He then informed me that he had long since been restored to perfect health, and had been for many months free from every trace of the disease.

A man, forty years of age, who had been a messenger in a mercantile office for twelve years, was promoted to the office of resident clerk. I saw him when labouring under a second attack of regular gout. He informed me that in his former occupation he always enjoyed good health; but during the eighteen months of his present employment he had been a constant invalid; dyspepsia, urticaria, and sleepless nights having reduced him to an unenviable condition. As soon as he was able to do so, I ordered this man to rise at five, and take an hour's active exercise in the morning, half an hour in the middle of the day, and an hour again in the evening. This he continued regularly for three months. At the end of that time he was much altered. The urticaria and dyspepsia had disappeared. He slept soundly, and was in every other respect in perfect health. He has never forgotten the lesson thus learned, and since that time he has never had the slightest illness. I could record many such cases; but, as they are of everyday occurrence, many such must be familiar to all.

When in a state of freedom, the blood of wild animals who live entirely on flesh does not contain uric acid; but when they have been confined for some

time in our Zoological Gardens, this acid often exists in considerable quantities. In such cases the urine is loaded with urates.

The blood of men accustomed to continual hard labour contains but little of this acid. In men who lead sedentary lives it usually exists in abundance.

On one occasion I took some ounces of serum, by means of blistering, from two patients confined in the accident-ward of Jervis Street Hospital. The two men had been admitted on the same day—ten days previously—with fracture of both bones of the leg. They were otherwise healthy. That taken from one was free from any trace of the acid, but that from the second was loaded with urates. The man from whom the latter was taken was a tailor, the other being an agricultural labourer. I have, moreover, frequently found the blood of men which was on their admission into the hospital free from every trace of the acid, after six or seven weeks of confinement become loaded therewith.

As air and exercise, besides preventing the undue accumulation of uric acid in the blood, also tend to invigorate the nervous system, the want of it must

produce depression. In this way sedentary employment at the same time is one of the most frequent predisposing and exciting causes of the disease.

There are few more active agents in producing gout than saccharine matter. Taken in any form it seems to predispose to the disease. I know several patients who cannot take any quantity of cane or beet-root sugar without suffering from an attack of gout. The late Sir Dominic Corrigan was wont to say that he never partook of stewed rhubarb without getting an attack of gout, but I am strongly of opinion that it was the large quantity of sugar he used, and not the rhubarb, which was the cause.

The origin of gout may also be very often traced to the habitual use of stimulants. This may be either due to the sugar or to the alcohol contained in it. Most wines have some of the former. Fully fermented wines seldom cause gout. The more free saccharine matter they contain, the more they predispose to the disease. Hence, the stronger beers and porter are active agents in producing gout. The hard water which is used in their manufacture in most Irish and English breweries has the power of retaining much free saccharine matter. This seems



to have the effect of improving both the flavour and the body, but it undoubtedly also adds to its gouty properties. In Bavaria, on the contrary, where they use soft waters in the manufacture of their beer, it seldom produces the disease, although enormous quantities are daily consumed; whereas few persons who lead sedentary lives can drink Burton beer or Guinness's porter without suffering from gout. Rough cider may be taken with impunity, but cider which is only partly fermented ought to be avoided.

Alcohol quickens the heart's action, and thereby excites the brain. When this is constantly repeated, the entire nervous system is weakened. It is generally thought that distilled spirits have little effect in predisposing to gout. This is quite true, if it is only indulged in to the amount required by the system; but, if taken in excess, it acts as an exciting cause. Thus, too, immoderate smoking and venereal excesses produce the disease.

In the present day, women are comparatively free from gouty affections. This immunity is in a great measure, if not entirely, owing to the fact that they seldom indulge in the excesses so common with men. Hippocrates stated that women were free from the

gout; but at a later period, when during the Roman Republic their habits had changed, Seneca wrote: 'The nature of women is not changed, but their manner of living; for while they come up to men in every kind of licentiousness, they equal them in their bodily disorders. Is it, then, surprising to find the most skilful physician\* in error, when we see so many women gouty and bald-headed? They have lost the benefit of their sex. They have cast off the woman, and are doomed to the diseases of men.'

It has been noticed by many authors, that people who handle lead, or whose system has become impregnated with lead, suffer from gout. Musgrave, Huxham, Falconer, Parry, Todd, and Garrod all noticed this fact, and some have asserted that painters and other workmen who handle lead are more liable to gout than any other persons. If this be so, the explanation may be that lead prevents the uric acid from being excreted, and thus predisposes to gout.

In Jervis Street Hospital and elsewhere I have treated a large number of cases of lead poisoning amongst painters and others, and I have never yet met with a single case of gout amongst them. I have, moreover,

\* Hippocrates.

inquired largely amongst the employers of such men, and could find no indication that they are more liable to this disease than others.

Depressing mental emotions are the most frequent causes of an attack of gout. Statesmen, politicians, and mercantile speculators have always been remarkably subject to the affection. Sudden depressing news frequently brings on a seizure of the disease.

## CHAPTER VIII.

### *DIAGNOSIS OF GOUT.*

AN ordinary case of acute regular gout cannot be attended with any difficulty of diagnosis. The sudden invasion of the disease coming on towards the break of day, generally affecting one of the smaller joints, usually the metatarso-phalangeal joint of the great toe, accompanied by great pain, œdema, and subsequent desquamation, with a gorged condition of the veins leading to the part, can be no other disease than gout. When, however, one of the larger joints is affected, the diagnosis is often attended with difficulty.

Rheumatism, or the so-called rheumatic gout, are the two diseases most likely to be mistaken for gout.

Gout is hereditary. Neither of the other two diseases have the same marked hereditary tendency. Gout, again, generally first affects adults between thirty-five and forty-five years of age. Rheumatism is more

frequent in young persons, and rheumatic gout in old people. The cause, too, is often a means of distinguishing between them. Nervous depression, want of exercise, and free living are generally the cause of true gout; exposure to cold is usually the cause of rheumatism. The latter disease is attended with much more febrile disturbance than gout. Again, the paroxysm of gout is intermittent; not so with rheumatism or rheumatic arthritis, which are both progressive.

As the kidneys play a most important part in eliminating the uric acid or urate of soda from the blood, it follows that they form a very important means of diagnosing the disease. The urine voided at different times is liable, even in a healthy condition, to some variation; even the ancients recognised this, and hence they called the urine which was voided immediately after drinking the 'urina potûs,' which is pale in colour and of low specific gravity; that voided after eating they called 'urina cibi,' and which was of higher specific gravity and somewhat darker in colour; and that passed between meals they called 'urina sanguinis,' and this latter is always the best for examination. The quantity of urine passed in the twenty-four hours ought to vary between thirty and fifty ounces. As the skin and the

kidneys are colleagues in eliminating the same effete matter from the blood, it follows that when the skin acts much there is a small secretion from the kidneys, and *vice versâ*. Even a healthy subject excretes about eight grains of uric acid by the kidneys in the day. This is found in the urine, in the form of urate of soda. For this reason the uric acid has little to do with the acidity of the urine.

Immediately preceding an attack of gout there is always a deficient secretion of uric acid or urate of soda, and as a rule the urine is scanty in quantity and paler in colour. During the attack, it is high-coloured, and has deposits of brickdust sediment. As the disease passes away, the amount of uric acid excreted is often increased considerably. Albumen I have found frequently present before and during an attack, and to subside as the gout itself subsided. I have likewise frequently found sugar present during the intervals of an attack of gout, and to disappear as the attack developed. I have seldom had a gouty patient, whom I have watched for years, that I have not found at one time or other traces of sugar or albumen in his urine. I believe this latter in the urine to be more common in the misplaced and atonic form of gout than in the other

forms. In such cases I do not regard it as a serious sign of the kidney being organically diseased, as it generally disappears rapidly under treatment. My note-book contains several such cases as the following :

P. D., fifty years of age, has been subject for some years to regular gout, which generally commences with cramps, dizziness, irritability of the bladder, and appearance of albumen, which disappear as soon as the toe becomes inflamed.

In cases where, after the examination of the urine, there is still some doubt, the examinations of the blood will solve the difficulty. The best method of examining blood to ascertain whether it contains an excess of uric acid is to take a little serum, either from a blister or, having removed a little blood by means of the artificial leech, allowing the clot to separate. The serum should be evaporated in the water-bath and the residue boiled with rectified spirit, and then boiled in distilled water ; a little of this should then be taken and evaporated to dryness, treated with nitric acid, and then held over the vapour of ammonia. If uric acid be present, a purple tint—muroxide of ammonia—will be seen. If the rest of the fluid now be concentrated,

and a few drops of hydrochloric acid added, uric acid will be deposited as crystals. If a concentrated watery solution of the dried residue of the serum be allowed to evaporate slowly, crystals of urate of soda will be deposited.

The profession is indebted to Dr. Garrod for suggesting a simple method of testing for uric acid. He names it the uric-acid thread test. It is as follows:—‘Take from one to two drachms of the serum of the blood, and put it into a flattened glass dish or capsule; those I prefer are about three inches in diameter and one-third of an inch in depth, which can be readily procured at any glass shop; to this add ordinary strong acetic acid in the proportion of six minims to each fluid drachm of serum, which causes the evolution of a few bubbles of gas. When the fluids are well mixed, introduce one or two ultimate fibres, about an inch in length, from a piece of unwashed huckaback or other linen fabric, which should be depressed by means of a small rod or a probe or point of a pencil. The glass should then be put aside in a cool place until the serum has got set and almost dried—on a mantelpiece in a room of the ordinary temperature, or in a bookcase, answers very well—the time, varying from thirty-six to



sixty hours, depending on the warmth and dryness of the atmosphere. Should uric acid be present in the serum in quantities above a certain small amount, it will crystallize, and, during its crystallization, will be attracted to the thread, and assume forms not unlike that presented by sugar-candy upon a string.'

In anomalous and misplaced gout there may be at times even more difficulty in the diagnosis; but the history will often give material aid.

The premonitory symptoms, in even an attack of anomalous or misplaced gout, will also be useful aids in discerning the nature of the disease. The patients are far less feverish when suffering from the gouty variety of the disease; the pulse is not so frequent, and towards the break of day I have generally found such patients become worse, and as the day advances they usually get relief; whereas, in other cases, as evening is approached, the patient's sufferings are increased. Gouty pleurisy, gouty tonsillitis, gouty spasm of the glottis, gouty asthma, and gouty laryngitis are the diseases most difficult to diagnose.

In tonsillitis I have generally found that, unlike the ordinary variety of the affection, both tonsils become

inflamed at the same time, as in scarlet-fever. Unlike it, however, the disease generally attacks at night, the patient having gone to bed in perfect health. There is always an absence of the premonitory rigors and high temperature which accompany scarlatina. In the other disease we must trust entirely to the history of the case and to the examination of the urine and blood. In very doubtful cases the action of colchicum, which, if the case proves not to be gouty, can be of no injury, will always aid in diagnosing. In gouty cases, unlike rheumatism, there is generally a deficiency of cutaneous secretion.

From rheumatic arthritis—the so-called rheumatic gout—chronic gout may be distinguished by the absence of uric acid both in the deposit and in the blood, as well as by the subacute variety of its earlier exacerbations of the former disease, and by the fact that in chronic gout the deposit is always exterior to the joint in the early stages of the disease.

## CHAPTER IX.

### *PROGNOSIS OF GOUT.*

THE most important consideration in connection with gout is the prognosis. Whether the disease is curable or not is a question which has in every generation occupied the attention of the medical world.

Hippocrates, Galen, Celsus, and most ancient physicians held that, if treated before concretions had formed, it readily yielded to remedies. But many who have lived in more recent times believed, either that 'gout was the only cure for gout,' or that it was altogether an incurable affection. Even in the present day some eminent physicians lean to this opinion. Sydenham never administered medicines during an attack. Cullen thought that the common practice of committing a person suffering from gout to patience and flannel was established on the best foundation. Others have even recommended an absence from all treatment, looking on medicine as not only of little

service, but even deleterious. They have therefore left gout to follow its own course, not only to render the life of its unfortunate victims miserable, but even to drag many of them to an untimely grave.

That age has, however, passed. Gout no longer forms the *opprobrium medicorum*. Few physicians will be found in the nineteenth century to deny that it is as curable as most, and far more curable than many, other diseases.

Many of the medical profession, however, believe it to be so only in its earlier stages. Yet I have not the slightest hesitation in saying that it is perfectly curable in every stage, provided no deposit has been formed in the blood-vessels or in any of the vital organs.

The following cases will show I am correct in forming this opinion:—J. B., a grocer by occupation, and now forty-five years of age, was first attacked just fifteen years ago with regular gout. This paroxysm lasted about three weeks. He was then free from the disease for eighteen months, when a second seizure left him crippled and lame for a considerable time. Both these attacks had occurred in the great toe of the right foot.

From this period the affection returned frequently,

not only in the toes, but also in the ankles, fingers, and wrists. Concretions soon formed, and when I first saw him, many of these, in the vicinity of the digital articulations, had ulcerated. The fingers were much disabled, and he walked with considerable difficulty. The time he was free from the disease was extremely short. The paroxysms, which occurred in rapid succession, weakened him to such an extent that he was incapable of almost any exertion. He had consequently been obliged, some years previously, to retire from business. From colchicum he had at first experienced much relief; but, being unable to resist the temptation when in agony, he had used this drug so frequently that its effect was now but slight. In this state I saw him for the first time. The great toe, the ankle, and the knee were all swollen, and the first two were œdematous. As I entered, the patient was sitting up in the bed crying like a child. His face was pale, the heart's pulsation was weak and quick (110 in the minute), but regular; his tongue much coated, his bowels constipated, the urine scanty and intensely red and acid. There was some tendency to perspiration. He had suffered during three days and three nights so much that he begged of me (his speech interrupted by fre-

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quent sobbing) to relieve him from what he termed his agony. I ordered a mash of camomile-flowers and poppy-heads to be made, and, having been well sprinkled with tincture of opium, to be applied to the affected joints. I then procured for him a night's rest by means of subcutaneous injection of morphia and by a fifteen-grain dose of hydrate of chloral. Next day, by the use of calomel and rhubarb, the liver and bowels were relieved. After which a few days of alkaline and colchicum treatment improved his condition so much that all acute symptoms had ceased. I now ordered him small doses of quinine, and commenced gradually to reduce his stimulants. His diet was carefully marked out. Every four hours he partook of a small quantity of nutritious but unstimulating food. At six in the morning he ate a small piece of bread and drank a cup of coffee. At ten o'clock he partook of oatmeal porridge with milk; at two beef-tea and bread; at six, a small quantity of plainly-dressed animal food and some well-cooked easily digested vegetables. This was occasionally varied with arrowroot, sago, white fish, and the like. Each day, while he was unable to walk, he went in a cab to the country, and sat for two or three hours in the open air. A Turkish bath was ordered

each morning at a temperature of 120°. In this he remained two hours. His drink was now confined to lemonade without sugar, mineral water, and a single glass of good whisky during the day. Beer and porter, which had been his usual drink before, were strictly forbidden. After two months of this treatment he was so much improved as to walk a little, and very shortly after he was able to ride. Thus he continued with little alteration for six months, during which time he had three or four abortive fits of the gout. Shortly after he bought a farm in one of the most healthy parts of Ireland. His regimen and diet were continued rigorously, and his medicine altered to the triple phosphate of iron, quinine, and strychnia, in half-drachm doses, three times a day. He was so far improved sixteen months after I first saw him, as to be able to walk many miles, partridge-shooting. His improvement continued until he again consulted me last December. This time he was affected with a slight rash of psoriasis. I found him now, just four years since the commencement of the treatment, in the following condition:—The pulse was full, and but seventy beats to the minute; the tongue clean, the bowels moved regularly

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once a day; his complexion bore a healthy, florid aspect. The urine, which had been kept for my inspection, was copious and clear. The skin moist, and soft, the chalk-stones had almost disappeared. The patient assured me he was as well able to undergo the fatigue of a day's fox-hunting as any man in the county, and had repeatedly spent the entire day walking, while engaged in partridge-shooting. He was quite free from all traces of gout, and had not had the slightest symptom of the disease during the past twelve months.

The following is also a remarkable case:—In 1874 I was consulted by a gentleman who was of a particularly gouty family, and who himself had been for years the subject of the disease. For three years I attended him in a great number of attacks. The fingers of his right hand were all deformed and stiff, and almost every other small joint in his body affected, and he was to all intents and purposes a cripple. Three years later he failed, and was left in absolute poverty. He was utterly unable to do anything. I saw him during the next two years frequently, when he was trying to eke out an existence as a town commercial traveller, al-



though he could hardly crawl from house to house. He now commenced to take quinine and lithia regularly, and his diet was of the simplest kind. Almost daily he seemed to improve, and in 1882, when I last saw him, some four years after his failure, it was with difficulty that I could observe the slightest enlargements of his joints. He was able to write well, and seemed to me to be in prime health, and told me that he often walked thirty miles in the day. This I regarded as one of the most remarkable cases that I have ever seen, as I was of opinion that, from the extent of the chalk-like deposits, at least the joints of his right hand could never resume even their original shape.

Some years ago, on the death of my friend Sir Dominic Corrigan, M.C., a patient who had been for years under his care came under my treatment. He was a very wealthy mercantile man, well known in the city of Dublin. He had for years lived well, and at times was much overpressed with business. When I first saw him, his liver was enlarged and very sluggish. He had never had a regular attack of gout, but gouty pain in different parts of the body was a matter of

daily occurrence. The action of the heart was irregular and intermittent. His urine was highly albuminous, and he walked with pain and difficulty. When he went home of an evening, after being absent all day, he ate a hearty dinner, and generally sat in a chair and slept for three or four hours, after which he retired to bed and passed a restless night, rising late on the following day and resuming his business unrefreshed. In this way life was a mere passive existence, devoid of all comfort. A short time after he came under my care he was seized during the night with an intense abdominal spasm, so severe that he could not move from the position he had assumed in his efforts to relieve the pain. I found him a short time afterwards with his knees drawn up, trying to suppress a sickness of stomach which increased his pain. An hour's active treatment relieved the pain, and this was materially aided by an alkaline mixture containing oil of cajaput and colchicum. The next day I was summoned down to Wicklow, and while there I received a telegram that my patient had again become very ill. I returned at the earliest possible moment and found him delirious, and with other signs of gouty mania. He was again

relieved by colchicum, and the following night the ball of the left toe became inflamed. Three or four days' anxious treatment followed, after which he gradually convalesced. This attack so alarmed him that he consented to undergo a regular course of treatment, with the view of regaining some of his former strength, energy, and health. I laid down rules of life for him, including daily exercise, a purge twice a week, lithia daily, moderation in eating and drinking, and the use only of easily digested food. He followed my directions accurately, with the result that in two years he was not only perfectly free from every trace of gout, but, although just eighty years of age, he is able to walk twenty miles without fatigue. For some time after he recovered he carried a pedometer, which showed that the amount he walked daily was about eighteen miles. Once or twice a year he has a mild attack of regular gout, which passes away in a few days, leaving him for months afterwards in perfect health. When he was about two months under treatment, all trace of albumen had disappeared from his urine. He now pays me a weekly visit, and on more than one occasion I was able to ward off an

attack of his old enemy when the premonitory symptoms had already appeared.

Porphyry relates the case of a Roman senator named Rogatianus, who was a martyr to gout, and was so crippled as to be wholly unable to walk. Inspired by the teaching of Plotinus, the Platonic philosopher, he became so eager in the pursuit of learning that he retired from public life, dismissed his servants, and restricted his diet to the most moderate fare. He not only recovered perfectly from the disease, but became remarkable for his agility. The joints of his fingers, formerly stiffened, recovered their freedom, so that in the use of tools he surpassed many artisans.

Van Swieten records the case of a clergyman in the enjoyment of a 'fat benefice,' who suffered from a most inveterate form of gout for many years. He was captured by pirates, and compelled for two years to work hard at the oar. When, after being redeemed from his captivity, he returned to his native country, he had lost his cumbrous and superfluous flesh, 'nor was he ever afterwards affected with gout, though he survived several years.'

Musgrave relates a still more extraordinary recovery. A gentleman was seized at the middle period of life with an attack of gout, whose violence was proportioned to his previous excesses, he having spent his entire youth in indulgences of all kinds. One attack followed another in quick succession, until at length his health was undermined, and his joints were covered with numerous large chalk-stones. After a time, his fortune being spent, he took to brick-making, and underwent much privation and fatigue. Soon his appetite returned, his body was reduced in size, and became powerful and strong. His chalk-stones all disappeared, and he lived for many years thereafter undergoing great labour and on most moderate fare.

Very many such cases might be quoted. But those already mentioned I consider justify me in saying that, as long as there is no organic disease of the heart, brain, kidneys, or blood-vessels, every case of gout is curable.

For this purpose, however, it becomes of vital importance that the patient should possess both resolution and perseverance, and adhere strictly to the directions of his physician. When such a subject is

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met with, he may be assured that, with time and patience, his disease can not only be cured, but its recurrence prevented.

In young subjects, otherwise healthy, the affection yields readily to treatment, and may be considered as one of the most curable of all diseases.

## CHAPTER X.

### *PREVENTIVE TREATMENT.*

WHEN a paroxysm of the disease has passed away, the attention must next be directed towards preventing its return. This must mainly be accomplished by the regulation of diet and exercise. The medical treatment which may be used as an adjunct consists in gentle laxatives and mild diuretics, combined with tonics.

Very many centuries ago, Galen affirmed that it was impossible to cure those who indulge in over-eating and drinking, because by their intemperate way of life they are constantly adding to the disease. This is no less true of gouty subjects at the present time. Sir William Temple advised simple diet, limited by every man's experience of his own digestion; thereby proportioning, as near as can be, the daily repair to the daily decay of our wasting system.

The first rule I would lay down for the diet of those

who have once suffered from an attack of gout, is never to consume large quantities of food at one meal. A famous physician, when once asked what a certain patient should eat, said, 'Whatever he pleases, but in small quantities at a time.' If all people were to follow this precept, there would be far less disease in the world. Nothing produces indigestion and dyspepsia so frequently as overloading the stomach. In youth, whilst the body is growing, and the individual is accustomed to much bodily exercise, the digestion is vigorous, and to repair the waste large quantities of food are required, and therefore consumed with impunity. In after-life, however, when business or professional occupation prevents even a proper amount of exercise being taken, the circulation becomes languid, the respiration slow, and the digestion is usually but imperfectly performed. And yet very often in such cases the habit of overloading the stomach is not abandoned. Indigestion and dyspepsia are the result. This is evidenced by the patient becoming drowsy and incapable of mental or physical labour for many hours after a meal; sleeping badly, and frequently rising with a foul tongue and severe headache. The excretions become scanty, uric acid accumulates



in the blood, and the first depression of the nervous system brings with it a fit of gout.

The habit—very common with the upper classes in Dublin—of taking but two full meals a day likewise conduces to this condition. A heavy breakfast and dinner, without any intermediate nourishment, is most injurious to health. The French system is infinitely more healthful, and more conducive to a long life. I generally advise all classes of patients, but especially the gouty, to arrange their meals in such a manner that they are never more than four hours during the day without partaking of some kind of food. Thus, a moderate breakfast at eight or nine; lunch at twelve or one; an oyster and biscuit, or some light substitute at three or four; and dinner at seven, would do much to prevent a return of the disease. Patients, however, whose occupations will permit them to do so, should either dine early, or make their lunch their principal meal of the day.

The articles of food consumed by gouty patients should be carefully considered. In a work of this kind, rules and opinions can only be drawn from the average effects in a number of cases. Each individual must carefully avoid those articles which he has

learned by experience to be beyond his power of digestion.

Tea and coffee have been thought injurious ; but, from careful observation, I am convinced that they are both highly commendable as articles of food for the gouty. In using coffee, however, care should be taken that the milk is but warmed, for if it boil it becomes very astringent. Arrowroot, semolina, porridge, tapioca, sago, barley, rice, milk, and macaroni are all nutritious, and do not tend to produce gout.

Game, small fowl, white fish, oysters, sweetbreads, are also of great use, as articles of food which are easily digested, and in no way contribute to the undue production of uric acid.

I cannot agree with those authors who assert that gouty patients should eat very sparingly of animal food. People whose brain is active, and whose lives are full of excitement, require no small share of this kind of nourishment. Mutton and beef are the best varieties, and may be used in considerable quantities ; but pork and veal should be avoided. Lamb need not be forbidden, if it agree with the patient. Most people can readily digest it, but I have known patients with

whom the slightest quantity of lamb produced symptoms of indigestion.

Geese, turkey, salmon, and most shell-fish are not easily digested, and should not be used. Oysters and perfectly fresh lobsters, however, are highly commendable as articles of diet for the gouty.

Cane and beetroot sugar is most injurious, and should always be avoided.

As a rule, vegetables are of much service to the gouty, as they act on one or other of the eliminating organs. Greens, as cabbage and spinach, act on the bowels. Onions, garlic, asparagus, celeriac, salsify, and such-like, stimulate the kidneys. Turnips, carrots, and artichokes tend to cause perspiration, and are therefore beneficial. Lettuce, watercress, and other vegetables usually consumed raw, should be eaten sparingly, as they are liable to cause indigestion, unless experience shows that they can be eaten in individual cases with impunity; then I believe this class of food to be of much service. Uncooked cucumber I have known to cause such severe dyspepsia, that I specially forbid its use; and for the same reason I also prohibit any considerable quantity of cheese.

Most fruits are useful in the preventive treatment of

the disease. Strawberries and grapes have been used as cures for gout, and many yet believe their constant use will prevent a recurrence of the malady. Oranges and lemons are of such value as articles of food for the gouty, that they ought to be partaken of daily.

Gooseberries and ripe currants are serviceable, but stone fruit, as a rule, should be avoided.

Pastry, especially that made with yeast, is most injurious. I am strongly of opinion all gouty subjects would do well to eschew all sweets at dinner.

The fluid consumed by those who have once suffered from gout is of the greatest importance in preventing its return. Lemon and water, ginger ale, lithia, kali, and soda waters, or natural mineral waters, especially those imported from Contrexéville, Carlsbad or Royatles-Bains, are the best draughts. Cider has been ranked by some amongst the drinks to be prohibited; but, from careful observation, I am convinced that it has been unjustly condemned. I consider rough cider, when taken in moderation, as not tending to produce gout. Ale, beer, porter, sherry, port and madeira are particularly injurious, and should be strictly forbidden. Champagne, sparkling moselle, hock, and burgundy are also capable of producing

an attack of the disease. The other French, Rhine, and Hungarian wines, if of good quality, and taken moderately, do but little injury. Claret is almost harmless. The spirits most to be avoided are rum and brandy, but these I consider far less deleterious than full-bodied wines. Gin, absinthe, and old whisky have, in my opinion, but very little tendency to produce the disease, and are those which agree best with gouty patients.

It is impossible to lay down any decided rule as to the quantity of stimulants which may be allowed; but in general terms it may be stated that, before the age of forty, the daily use of even a small quantity is decidedly injurious. From this age to that of sixty, patients require some stimulants. The quantity varies much in amount, and must be calculated according to the force of the heart's action. As age advances, the quantity must be increased. Generally it will be found a good rule to calculate half a glass of whisky, or an equivalent thereto, for every ten years above forty.

Open air and a due quantity of exercise is absolutely necessary, if we would ward off a recurrence of the paroxysm. Walking is undoubtedly the best

means of taking both these; but, unfortunately, gouty people cannot usually take sufficient exercise in this way. Riding on horseback has at all times been much praised as a remedy for gout, and cannot be too much commended. Even carriage-exercise is of the greatest benefit where neither of the former can be taken.

M. C., a lady who, strange to say, was born the same day as her Majesty the Queen, and who lost her husband also on the same day as Prince Albert died, and who, moreover, has had the same number of children born about the same time as the Royal family, had all her life been an active, healthy woman, free from even the slightest ailments, up to the time when she lost her eldest child. Soon after, a second died of consumption, and was quickly followed by a third, and then the youngest daughter also died of the same disease. During the time of this trouble she seldom stirred outside the house, and for the first time she showed a gouty tendency. Her heart became feeble, her breathing difficult, and at times she suffered from severe headache. The blood was loaded with uric acid, and a large quantity was daily excreted in the urine. For over five years I endeavoured in every way to make her take regular exercise, but without success, although in

every other respect she followed my directions accurately; but it was impossible to rouse her nervous system or make her take air or exercise sufficient to free her from the disease. She now suffered severely from gouty attacks, and her toes have become affected several times. During the past twelve months circumstances have occurred which have caused her to be in the open air and compelled her to take walking exercise, with the result that she has very considerably improved, and I trust that this will soon restore her to perfect health.

At the same time as over-exertion is often an exciting cause of the disease, producing as it does considerable depression, care should be taken not to take too much exercise.

Change of air, scene, occupation, and diet, is also of much service. Sea-bathing and a visit to some of the alkaline springs add much to the patient's interval of relief. The springs of Vichy, Contrexéville, Baden-Baden, Wiesbaden, Aix-la-Chapelle, Royat-les-Bains, and Carlsbad are those most suitable to the gouty. The waters of the first of these contain carbonate of soda. The second contain lime combined with the sulphates of soda and magnesia. The third are rich in

chloride of lithia. Wiesbaden waters are principally composed of chloride of sodium. Those of Aix-la-Chapelle contain both the chloride and carbonate of soda. Royat-les-Bains springs are rich in soda, lime, and lithia. Carlsbad is famous for water containing sulphate of soda.

Should the patient be at all weak soon after a fit, or should he be afflicted with atonic gout, a visit to some chalybeate spring would be productive of much good. Those of Lisdoonvarna Spa, Tunbridge Wells, Pyrmont, or Schwalbach are most to be recommended.

It will often be found that a few months' change of air to some healthy locality will remove all traces of the disease. I know of no place more suitable to gouty patients than Ramsgate or Margate, in the Isle of Thanet. Some time since I met a gentleman who, when suffering from the worst variety of atonic gout, which had crippled him for years, had spent some months in the former place. He left perfectly well. Although he attributed his cure to the Turkish and other baths in which he indulged while stopping at the Granville, and in which that princely hotel abounds, much was also due to the bracing air for which Ramsgate is so justly famous.



The state of the skin is of the greatest importance in avoiding gout. As I have before shown, much uric acid is eliminated through the cutaneous surface. If the pores are blocked up with dirt or secretion, much will be retained in the blood which should be excreted. Frequent ablutions should, therefore, be employed. The Turkish bath is also most serviceable. Friction is likewise of much use. Sir William Temple was wont to say, that no one need have gout who could afford a slave to rub him. Sulphur springs owe their beneficial influence in the treatment of gout to their action as diaphoretics.

The spa at Lucan, near Dublin, is now become famous for the benefits which patients suffering from chronic gout derive from its waters, which contain sulphur.

Before leaving this portion of the subject, there is one point to which I desire to draw particular attention. Many gouty patients consume often a large quantity of alkaline water during dinner, believing such to be beneficial. There could be no greater error; as by so doing they diminish the digestive powers. The acid of the gastric juice is much diminished by the *constant* use of strong alkalies. Fortunately, however, the arti-

ficial mineral waters, as a rule, contain very little free alkali; but even this little is highly injurious if taken in very large quantities.

I was once consulted by a person engaged in the occupation of a publican. He was very gouty, and as a remedy was advised to take quantities of potass-water. He obtained the variety which was supposed to contain the largest quantity of the alkali. At dinner he usually drank four or five bottles. The result of which was that he soon became a martyr to dyspepsia, and could not eat the lightest food without feeling oppressed with indigestion. I showed him the folly of such practice, prevailing on him to lessen his alkaline drinks, and I ordered some bitter tonics. In three weeks he was entirely free from dyspepsia, and could eat a pound of beefsteak for his breakfast without the slightest symptom of indigestion.

In the preventive treatment of gout the state of the organs of elimination is of the utmost importance. The bowels should be freely moved at least once a day; and, if necessary, medicine must be used. Liquid extract of cascar is an excellent drug wherewith to regulate them.

The kidneys may be stimulated when their secretion

is scanty. Citrate of lithia or potash is the best medicine with which to obtain this effect.

In gouty subjects, I have been for a long time in the habit of ordering a little powdered citrate of lithia to be mixed with chloride of sodium, and this mixture to be used as table-salt. This constantly supplies the system with a salt which, when combined with lithic acid, is easily eliminated by the kidneys, and thus prevents an undue accumulation of uric acid in the blood. Juniper is also beneficial. Of the tonics useful in the interval between attacks, quinine is undoubtedly the best. Calumba, gentian, and sarsaparilla are likewise most useful.

In debilitated subjects iron will be found of great service, the citrate, sulphate, and tartrate being the best preparations for this purpose. Phosphorus and strychnine are also most beneficial in cases where there is not a tendency to plethora. In other cases, sulphate of nickel and sulphate of zinc will be found most useful tonics, which, judiciously used, will do much towards preventing a return of the disease.

There is one other direction which I am in the habit of advising gouty patients, and that is to fix one day in the week on which to take some purgative medicine, so as

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to thoroughly act on the bowels, and thus clear out any accumulation which may have occurred during the week. To do this, a minute dose of blue-pill should be taken on the previous night, and early on the following morning, before rising, a tumbler made with equal parts of Hunyadi janos and Carlsbad natural water. If these do not act freely on the bowels in two hours' time, a second dose may be taken.

A gentleman, well known in commercial circles in Dublin, was a patient of mine for several years. He suffered for many years from regular gout, and a cutaneous rash due to the presence of uric acid in the blood. After relieving him from his gouty attacks on a great many occasions, I urged him to adopt the preventive method of treatment—to have Turkish baths once a week, and to free out his bowels thoroughly, to take regular exercise daily, and to avoid the articles of food which I considered gouty. He decided to follow my advice, and now for upwards of two years he has never had the smallest symptom of the disease, which previously had been almost a monthly visitor.

A short time since a medical friend, who had been for nearly twenty years in the army, came to me on a visit. The first evening we dined together he took

about three glasses of champagne and retired to rest at midnight in the best of spirits and health. Next morning I was surprised to find that he had been attacked during the night with asthma, and was at the time I saw him very bad. I pressed him to take a draught of Lithia and Colchicum, which relieved him at once, and since that time he has always warded off the attack by the continual use of Citrate of Lithia.

## CHAPTER XI.

### *CHRONIC RHEUMATIC ARTHRITIS.\**

CHRONIC RHEUMATIC ARTHRITIS is a disease which, while producing but little constitutional disturbance, is characterized by most severe local destruction. In some respects, its phenomena and symptoms closely resemble gout; but in others the disease bears close analogy to Rheumatism. Most authors describe this affection as acute or chronic, but I do not admit the existence of the former variety.

Chronic Rheumatic Arthritis consists of a succession of attacks of inflammation affecting one or more joints, leading in the course of time to destruction and distortion of the articulation. It sometimes commences with considerable fever. It then resembles a

\* Syn. Rheumatic Gout (Fuller); Chronic Rheumatic Arthritis (Adams); Rheumatoid Arthritis (Garrod); Capsular Rheumatism (Macleod); Chronic Rheumatism of the Joints (Todd); Nodosity of the Joints (Haygarth & Heberden); Usure des Cartilages Articulaires, Rhumatisme Nouveux (French writers).

mild attack of Rheumatic fever. At other times occurring without any premonitory signs, it seizes on persons apparently in perfect health. More usually, however, before the disease occurs, a patient is the subject of dyspepsia, irregular bowels, palpitations, and not unfrequently is jaundiced. The first local symptom usually noticed is stiffening and pain. This is at first only perceived when the joint is moved, but in a short time it becomes persistent even when the part is at rest. Swelling soon supervenes. This differs from that of Rheumatism in being situated entirely within the joint, the neighbouring textures not being engaged. There is now also some tenderness on pressure, and the temperature of the part is raised.

Rest and treatment are usually followed in the course of from eight to ten days with a gradual subsidence of the tenderness and pain. The swelling, too, which considerably abates, may even disappear altogether. After a variable time, the disease recurs with the same phenomena. The pain, however, is much more severe; being of a gnawing, sickening, or tearing character. The swelling also is greater, and seldom again entirely subsides; so that when the symptoms once more abate, the part is left swollen and

stiff. With a still shorter interval the inflammation is again set up, and runs a still more protracted course; or it may even now remain until the joint or joints affected have been totally destroyed. During all this time there has been little or no constitutional disturbance. At the incipient attacks but one articulation alone is affected; but if the disease has been allowed to run an unchecked course, it extends to almost every joint in the body. At first there is swelling, pain, and tenderness, but little organic change. Soon, however, the affected textures become thickened, and altered. The nourishment of the joint is perverted. One portion becomes enlarged and hypertrophied, while another is broken up and absorbed. The ligaments, synovial membrane, and even the ends of bones, by the increased size and thickened condition, produce much of the deformity characteristic of Chronic Rheumatic Arthritis. The cartilages frequently become broken up and absorbed, and the joint itself is distorted and enlarged. There is often a great deficiency of fat in persons affected with this disease. The smaller joints are those most frequently affected. Chronic Rheumatic Arthritis is probably more common with females, and with those who have been much debilitated by



rapid child-bearing or lengthened lactation. Occasionally deposits of salts of lime, and even foreign bodies, have been found within the joints.

*Pathology.*—The pathology of this disease is very obscure. By some it has been looked on as a combination of Rheumatism and Gout. By others it has been considered as a mere variety of Chronic Rheumatism. Analysis of the blood has revealed but little, and this little has been of a negative character. It has been thus ascertained that there is no abnormal accumulation of uric or lactic acid in the blood of those suffering from Chronic Rheumatic Arthritis. Post-mortem examinations have also proved that no deposits of urate of soda occur in this destructive malady.

This is, however, the result we would expect. Patients who are affected with this disease are usually much debilitated, and are not the class of patients in whose blood much uric acid appears. If such a materies morbi existed, I have no doubt but that regular gouty inflammation would be the result, and not Rheumatic Arthritis.

I look on this latter disease as due, in the first instance, to an undue accumulation in the blood of salts of lime, while this vital fluid is in other respects much

impoverished. With this condition there also often exists a certain amount of nervous depression, but there is always a languid circulation. Under these circumstances the balance between secretion and absorption of synovial fluid is lost, the joints become distended, the union of certain salts causes the fluid to become irritating, and inflammation results. The tissues about, especially the bones, being abundantly supplied with salts of lime, become enlarged and thickened, and the cartilages, deprived of their proper nourishment, and constantly irritated by the chalky fluid, gradually disappear. The absorbents which have become stimulated by the want in the blood of certain ingredients readily absorb the broken-down cartilages.

*Causes.*—The causes are, in my mind, the existence in the blood of abnormal quantities of salts of lime, together with general debility. Hence everything which can arrest or diminish the excretion from the different organs of elimination, or tend to impoverish the blood, will act as causes of Rheumatic Arthritis. Thus we see that the disease is not infrequent in those who have lost much blood; or who have been reduced by lengthened lactation or such-like causes. Diseases of the skin or kidneys also tend to its production.

*Diagnosis.*—It is of importance to distinguish Chronic Rheumatic Arthritis from both Rheumatism and Gout. From the former it may be distinguished by the absence of much constitutional disturbance, the long duration of the disease, the subacute commencement, and the structural changes. From the latter by the absence of uric acid both in the deposit and in the blood; by the prolonged and subacute variety of the earlier exacerbations, and by the class of patients it attacks.

*Treatment.*—The treatment of Chronic Rheumatic Arthritis must be conducted on the principle of improving the condition of the blood. Everything which tends to lower the system must be carefully avoided. The first attention must be devoted to the stomach. This must be improved by the use of antacids, bitter tonics, or nitro-muriatic acid and pepsine. Next, the bowels, skin, and kidneys should be regulated.

Tonics, such as iron, quinine, and the like, should in most cases be used. Turpentine in small doses is often of much service; cod-liver oil and iodide of iron are essential in the treatment of this affection. Guaiacum and arsenic are also most useful. But our chief efforts must be to supply the blood with those ingredients wherein it is wanting, by regulation of the diet. As

much animal food as can be digested ought to be used. Milk, arrowroot, and the like are most useful; tea, coffee, and chocolate are also beneficial. Vegetables are all serviceable if they can be digested. Stimulants in small quantities are also of much service. Beer, ale, and porter, so injurious in Gout and Rheumatism, are particularly useful in this disease. Half a glass of good bitter beer taken half an hour before dinner-time, will be found to improve the digestion. Change of air is of much use. A few months in some bracing place will often improve a patient's condition so much as to enable him to overcome a tendency to this terrible malady.

In the early stages much good often results from blisters, blistering collodion, and stimulating liniments. Later, plasters to support the weakened parts will give much relief. Turkish baths are most useful. Friction is also of the greatest service. Rest of the affected part, and open-air carriage exercise, should be strictly enjoined. Fruit, especially oranges, lemons, and grapes, are very beneficial. The treatment should include mineral acids, cod-liver oil, and vegetable tonics. Aconite, lemon-juice, corrosive sublimate baths, iodine, and iodide of potassium have been

strongly recommended by several authors. Many have likewise derived benefit from some of the following medicines :

Colchicum, the bark of Daphne Mezereon with Iodide of Potassium, Sulphur, Sassafras, Dulcamara, Arnica Montana, Balsam of Peru, Ammonii Iodidum, Ammoniæ Phosphas, Cannabis Indica, Hermodactylus, Stramonium, Veratrum Viride, Veratrum Album, Potassæ Tartras, and Auri Terchloridum. The alkaline and sulphur mineral springs are occasionally most useful.

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