

**Observations on acute rheumatism, and its metastasis to the heart, etc. /
by Thomas Cox.**

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OBSERVATIONS
ON
ACUTE RHEUMATISM,
AND ITS
METASTASIS TO THE HEART,
ETC.

BY THOMAS COX, M.D.

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PREFACE.

FEELING convinced that a more intimate acquaintance with the true nature and character of Acute Rheumatism might enable us to obviate, or remove more effectually, those symptoms which are commonly referred to *Metastasis*, I have been induced to intrude the following pages on the notice of the Profession, not with the idea of offering any thing new, but rather to elicit from the more experienced such facts and

remarks connected with the subject as may be considered important.

There are practitioners of the present day, who appear to be scarcely aware of the connexion between Acute Rheumatism and Inflammation of the Pericardium: and others again consider it but an accidental variety of the disease; hence the necessity of its occupying more of our attention.

Had not many opportunities occurred to me of witnessing the immediate and remote consequences of this disease, during a connexion of several years with Guy's Hospital, and other public institutions, I should not have ventured to take up the pen on the present occasion. The numerous cases of organic disease of the heart and pericardium, that were referable to or connected with Rheumatitis, first attracted

my attention to the subject. The individuals suffering from such disease are not only incapacitated from performing their ordinary duties with comfort to themselves, from the general derangement of the system, which disease in so important an organ could not fail to induce; but the serious and irreparable mischief connected therewith, too frequently removes to a premature grave some of the most interesting members of society, who were, but a short time before, in the enjoyment of perfect health.

Should the few remarks contained in this pamphlet, so far arrest the attention of the Medical Profession to a due consideration of this disease, as to enable us to prevent these frequent translations in Rheumatism, or furnish the means of treating

them, when occurring, with a more confident hope of success than we now possess, it will afford most sincere pleasure and satisfaction to the Author.

ON

ACUTE RHEUMATISM.

THE perusal of ancient medical authors is sufficient to convince us, that the disease now denominated Rheumatism was well known at the earliest periods; but the want of systematic arrangements caused the symptoms of this and other diseases essentially different, to be described under one general head. Hippocrates distinguished Gout from Rheumatism, by the former confining itself to one joint, whilst the latter affected several. Aretæus considered Acute Rheumatism only as a variety of Gout, which was called by him "wandering". Other authors have given different opinions concerning it; but the description

most corresponding with the view which is at present taken of the disease, will be found in the following words of Sydenham:—

“A rigore atque horrore orditur tragœdiam, quos statim excipiunt calor, inquietudo, sitis et reliqua illa infelix symptomatum caterva, quibus stipantur febres. Elapso die uno alterove (est et ubi citius), æger atroci dolore, nunc in hoc, nunc in illo artu infestatur, in carpis, humeris, genibus præsertim; qui locum subinde mutans, vicissim illas occupat, rubore quodam et tumore in parte quam postremum affecit adhuc residuis,” &c. Cap. v.

The remarks which this celebrated physician has made on the varieties of this disease, and its mode of treatment, differ very little from those of modern authors.

It may be deemed by some, superfluous at the present day, to urge the necessity of a more strict attention to the symptoms and progress of Acute Rheumatism, than

it has hitherto obtained. When, however, it is considered, that few diseases are more frequent, and more distressing to the feelings of the patient than that which now claims our attention, I shall, I trust, be excused for intruding the following remarks on the profession. For although it may seldom endanger life, as it usually occurs, we may find numerous instances where it has not only continued for many years, but has produced that permanent change in the structure of the affected joints, as almost to disable the individual for life. Its occasional fatal termination, by attacking internal organs will also be an additional reason why it should become the subject of our particular attention.

It is not maintained that a knowledge of the precise textures complicated in this disease, and of the particular nature of the inflammation attacking such parts, would enable us to adopt a more successful mode

of treatment ; but it will be admitted that any new light thrown on a disease of such frequent occurrence, will be an important addition to our professional knowledge. The metastatic tendency so often seen—its causes, and the consideration as to how far it may be referable to any particular variety of the disease—are, I think, worthy of some attention.

SYMPTOMS.

However obvious the signs of Acute Rheumatism may be, it would certainly be considered an omission to neglect giving a short statement of them.

○ This disease is not uniformly ushered in by febrile symptoms (pyrexia) but considerable variety is observed, as to their appearance ; occasionally the affection of the joints precedes the constitutional derangement ; sometimes they are simultaneous ; but much more frequently, a distinct febrile

depression is felt previous to the characteristic symptoms ; i. e. the inflammation of the joints. When the disease has taken full possession of the system, the following symptoms will be present ; pain, redness, and swelling, of several of the larger joints*, especially the elbows, shoulders, knees, ankles, and wrists ; and the sufferings of the patient are aggravated by motion, or external warmth.

The smaller joints of the fingers and toes are not unfrequently affected, as well as the bursæ and tendinous expansion of the muscles, and the fibre itself, or its cellular texture ; and in some instances it would appear, that every texture of the body participated in the inflammation, if the sufferings of the patient be any criterion. This

* *Swelling* is not to be considered amongst the essential symptoms, as the disease may be equally severe without it ; and, indeed, we often observe that a certain degree of tumefaction tends to abate the pain.

would, however, be opposed to doctrines which have been long taught, that rheumatic inflammation only attacks certain organs, or parts of the body*.

The peculiar nature of this inflammation is admitted by every one; for were the textures which suffer in this disease, to be the seat of common phlegmonous inflammation, we know the result might be suppuration †, or gangrene, which are never observed as terminations of Rheumatism, however acute; for the worst effect produced by this disease on the joints is a thickening of the ligaments, &c.

The dissection of rheumatic joints has shewn a concrete gelatinous substance. The matter effused under this inflamma-

* It is said by some to affect *cellular membrane, ligaments and muscular fibre.*

† The very few examples which are mentioned of suppuration in Rheumatism, were probably intimately connected with scrophulous inflammation.

tion varies in consistence, sometimes resembling the adhesive matter of common inflammation, at another time less consolidated, and oftentimes only serum; all which depositions become removed, as the disease subsides.

After this long digression, we will now revert to the particular symptoms.

Pulse. Its character is very different from that which is commonly observed in inflammation of serous membranes (as Pleuritis, Peritonitis, &c.) being full, hard, and strong, generally about 100, but necessarily varying much as to frequency, according to the constitution of the patient; from 90 to 130; fulness and strength are much more characteristic than frequency, more especially the former, which only subsides with the disease, nor can we overcome it entirely by repeated bleedings, and indeed it would be worse than useless to make the attempt. If by our remedies its frequency

and strength are diminished, we may remain perfectly assured that the requisite indications are fulfilled.

Tongue, is unusually white, and loaded, sometimes rather yellowish, and accompanied with much thirst and disinclination for food.

Skin always feels hot; the temperature varying from 100° to 105° ; the condition of the surface as to moisture is liable to very considerable variations, even within a short period of time; being at one time remarkably dry, at another, bedewed with a warm perspiration, which may be general or partial; but if it be the result of the disease, and not of the remedies applied, it will tend more to exhaust the patient, than to mitigate symptoms.

Urine, is high coloured at the commencement of the disease, as it advances becomes turbid, and when terminating, deposits a lateritious sediment.

Constipation is a usual attendant.

It may be observed, that the sensorium is not in the least degree affected; except when the brain suffers from metastasis. A nocturnal exacerbation almost invariably occurs, and at this time the disposition to a change of situation is more particularly observed.

CAUSES.

There appears to be a stronger predisposition to the disease in the young and robust than in the spare and aged; the acute disease generally occurring between fifteen and thirty-five; it is rarely met with earlier, and seldom at a more advanced period of life.

Of fifty-seven cases which came more immediately under my notice,

18 were under - 20

27 between 20 and 35

12 between 36 and 59

It has been said, that males are more liable to Rheumatitis than females ; but this remark will scarcely apply to the labouring class of society : for it will be found, that when the exposure is equal, the one sex is not more exempt than the other.

Certain conditions of body undoubtedly dispose to the attack, more especially that profuse perspiration which has been preceded by hard labour and fatigue.

The causes which act more immediately in producing the disease are first certain seasons : it may and does occur at every period of the year, and under all conditions of the atmosphere ; but we must admit, that the spring and autumn furnish us with many more cases than any other seasons, probably from the variations of temperature observed during the day and night, and the incautious exposure to the cold and damp atmosphere, without additional clothing. The intense cold of win-

ter, provided it be stationary, is not observed to be an exciting cause, except under particular circumstances of exposure. Sitting in wet clothes, lying on the cold ground, and sleeping in damp beds, are causes almost too obvious to be mentioned.

DIAGNOSIS.

From what has been already said of Acute Rheumatism, very little will be required by way of Diagnosis, there being very few diseases which can possibly be confounded with it; and the distinctions of these are generally so obvious as scarcely to require even an enumeration of them.

Gout is known by the mode of attack; which is generally sudden, and preceded by dyspeptic symptoms; occasioned by some excess in diet, either of food or drink, by external injury, or without any obvious cause. It usually attacks those who have

passed the prime of life; is extremely rare before the adult age, and is only met with at such a period, when the hereditary tendency is remarkably strong; and never occurs before puberty.

The Gout commonly attacks one joint or bursa; the kind of pain and swelling attending it, the glossy appearance and subsequent desquamation of the cuticle, sufficiently point out decided differences in the two diseases: its hereditary nature, and connexion with gravel are worthy of notice*.

Cellular Membranous Inflammation, is known by the nature, form, and situation of the swelling; the causes producing it, as an external injury, its termination, a proper

* Hippocrates and Aretæus have given us Diagnostic marks. Coelius Aurelianus, Lib. V. has clearly pointed out the distinctive characters of Gout, more especially in reference to its causes; such as excesses in living, indolence, sprains, time of life, sex, &c.

attention to the kind of constitutional derangement, and its confinement to one extremity, will furnish sufficient marks of distinction.

There is a species of inflammation of joints, attended with swelling and redness, and to all appearance of a rheumatic character; it is generally accompanied with an œdematous state of the surrounding cellular membrane, and is confined to one joint, and may generally be referred to some external violence. It may be a mere local affection, or be connected with derangement of the general health, febrile excitement, &c. it is in such cases that mistakes have been made as to the precise nature of the disease.

Scrophulous inflammation of the joints, inflammation of the synovial membrane, &c. cannot be well confounded with Acute Rheumatism.

To enumerate the diagnostic signs of

Lumbago and affection of the Kidneys, Sciatica and Hip disease, &c. would lead us too much from the subject immediately under consideration.

TREATMENT.

When entering upon the treatment of any disease, it appears more desirable and rational to discuss separately, the merits of each particular remedy, than to recommend a general plan for individual cases. By adopting this method, we have an opportunity of deciding on the superiority which one remedy has over another, and after coming to just conclusions on this head, we may, by a judicious combination of efficacious means, effect a more speedy cure.

BLOOD-LETTING.

Ever since acute rheumatism has been known, and long before it obtained the

present appellation, the importance and necessity of venesection has been urged; indeed, it would have excited surprise had it not been recommended, when we contemplate its highly inflammatory character.

Sydenham, after speaking of the absolute necessity of attacking the disease by a bleeding of about ten ounces, says “*Die sequente sanguinis tantundem detrahi præcipio; atque intercalato die uno alterove, pro ægri viribus, tertio; dein interjecto trium quatuorve dierum intervallo (prout ægri vires, ætas, constitutio, aliæ circumstantiæ suadent monentque) quarto, atque ultimo ut plurimum, venesectionem repeto; rarò enim usu venit, ut ultra quartam vicem venam incidamus, nisi vel regimen justò calidiùs præcesserit, vel medicamina calidiora ægro præter necessitatem fuerint ingesta.*” Van Swieten, Storck, and all the physicians of their day, agree in recommending the use of the lancet. Some mo-

modern practitioners not only object to its employment, but adopt a practice directly opposed to it, viz. the exhibition of cinchona from the commencement of the disease.

It may now be well to advert to some of the objections which have been urged against venesection. Many consider bleeding disposes the disease to become chronic; that a too frequent repetition of it when the acute symptoms have subsided, may lead to such an occurrence, I will not deny; but must confess never to have witnessed such a result, from the judicious employment of the remedy. The objection of most importance is, that it disposes to metastasis, involving questions of very considerable interest: 1st, Whether that occurrence is more frequent than formerly? 2dly, If that be the case, to what are we to refer it? We shall speak on this head hereafter.

Abundant evidence is afforded us in the

writings of ancient authors, to prove that they were not ignorant of the sudden translation of inflammation from the joints to internal organs, of which I shall speak more fully hereafter ; but will here ask whether such accurate observers of disease would have overlooked venesection as a cause of metastasis ?

If we attempt to reason abstractedly on the subject, our difficulties of explaining it will be increased.

From a careful attention to these cases, I am fully persuaded, that the timely use of the lancet would often have prevented the extension of the inflammation to the viscera ; for it will be found they almost invariably occur prior to the abstraction of blood, or before it has been drawn in sufficient quantities to subdue inflammatory symptoms. If this be correct, it is obvious that where any disposition is observed to

this internal inflammation, the lancet must be used with much more freedom.

A case occurred to me some time since, of a strong robust middle aged man, who had contracted a severe rheumatism, for which he was twice bled freely, with decided relief: still, however, the pains continued very acute, with a continuance of febrile symptoms; in addition to which supervened a slight cough, and anxious respiration, threatening an extension of the inflammation to the chest; another full bleeding however removed all these symptoms, materially abated the pain in the joints affected, and by the use of Colchicum, and an occasional purgative, he soon recovered.

Sydenham mentions a case of Acute Rheumatism, treated without blood-letting, where the disease proved very obstinate and severe, the chest and head becoming

affected. The attempts which have been more recently made to substitute other remedies for the lancet, do not I think justify us in the least degree, in excluding that valuable agent, as unnecessary for the cure of this disease.

General rules can alone be given as to the quantity of blood to be drawn, and the frequency of its repetition. It may be said that the young and robust will require the abstraction of sixteen or twenty ounces at the commencement, which will sometimes suffice; or it may be necessary to repeat it to a less extent on the succeeding day; but this must of necessity be left to the discretion and judgement of the practitioner. We must examine into its effect on the character of the pulse, febrile symptoms, &c., rather observing its general effects on the disease, than on individual appearances; for we should not allow the existence of one or

two symptoms to influence our practice, but be guided by a combination of those signs which characterize an increase or a continuance of the acute stage ; for the appearances of the blood, and the condition of the pulse, which in most inflammatory diseases, are sufficient to enable us to decide on the propriety of abstracting blood, cannot in this disease, be so much relied on.

The inflammation, when confined to the joints does not endanger life ; consequently that promptitude of practice, so absolutely necessary in acute visceral inflammation is not required ; for we may, after the first bleeding, allow our patients to remain twenty-four or thirty-six hours, with impunity. The mere existence of pain, however severe, will not always warrant a continuance of blood-letting ; for it is observed that Rheumatic inflammation, under every mode of treatment, will often run a certain course ;

it is therefore evident that the rash abstraction of blood would only debilitate and protract the cure.

An exsanguine appearance of countenance, which not very unfrequently accompanies acute Rheumatism, in certain habits, must not deter us from the employment of the lancet, as we shall oftentimes discover acute symptoms, corresponding but little with that pallid complexion, and requiring very active treatment.

The appearance of the blood in all the stages of Acute Rheumatism is somewhat similar: i. e. in being covered with a coat of buff: this varies somewhat however in its nature according to the activity of the symptoms, being at first more contracted and of a firmer texture than when the inflammation has been moderated by full depletion.

PURGATIVES.

It will be unnecessary to dwell on this class of remedies; as the importance of procuring free evacuation from the intestines in all acute diseases is now fully allowed.

A combination of submuriate of mercury, with powder of jalap, rhubarb, or extract of colocynth, should be administered as early as convenient, which may be repeated occasionally; for it is more desirable to evacuate the contents of the bowels in that way, than by the constant exhibition of aperients; the aggravation of pain to the patient, by frequent motion, and the necessary exposure attending the operation of such remedies, should be had in view.

We may vary the medicine occasionally, by substituting castor oil, infusion of senna, or sulphate of Magnesia, &c.

DIAPHORETICS.

The exhibition of remedies to produce diaphoresis, is a practice of very ancient date ; and it is probable, practitioners were first directed to their employment, by observing that nature adopted this mode of relieving herself. But without the aid of medicines, (from the partial nature of that perspiration which is the effect of the disease,) this evacuation is not observed to check the progress of the symptoms ; indeed the efficacy and operation of diaphoretics is uncertain, until blood has been abstracted, to subdue the inflammatory excitement, and procure that lax state of skin which readily perspires. Their employment prior to this will often only aggravate the sufferings of the patient, by determining an additional quantity of blood to the cutaneous vessels, which are already

in a state of congestion, and unable to unload themselves.

The various remedies of this class it will be needless to enumerate. The *Pulv. Ipecac. Comp.* and a combination of *Submuriate of Mercury, Opium, and Antimony*, are two excellent forms and will seldom fail; more especially if aided by the free use of *Tepid Diluents*, which are strongly recommended by Sydenham and others.

The profuse diaphoresis resulting from the employment of the hot bath will sometimes afford much relief, but it is often only temporary, and sometimes scarcely perceptible. I have known patients kept in a state of profuse perspiration for twenty-four and thirty-six hours, a complete vapour rising from the bed, with scarcely temporary relief to the pains of the joints; and the subsequent debility, which in part resulted from this practice, very much retarded the cure: the benefit is more per-

manent when the diaphoresis is moderate.

COLCHICUM.

No modern practitioner will doubt the efficacy of this drug in the cure of Acute Rheumatism, however difficult it may be in some instances to explain its *modus operandi*: at one time it acts freely on the bowels—sometimes inducing nausea and vomiting—diaphoresis is frequently induced by it; and occasionally the discharge of urine is much increased; the disease will also disappear without any increase in either of the above excretions; consequently independent of its operation as an evacuant, it must exert some sedative or specific power in the cure of this and other diseases. It is indeed now deemed almost an essential remedy in the treatment of Acute Rheumatism.

Although recommended by Storck, he

did not appear to be aware of the extent and benefit with which it might be employed.

The *Vinum Colchici* prepared with the fresh root or the seeds, is the best mode of administering it. But as objections have often been raised, (and not without reason) to the failure which has attended all the preparations of this drug, it would be adviseable to establish some definite preparation, to meet those important objections: and as we can at all times procure the seeds, they should be preferred to the roots, which are found to vary in strength, according to the time they are collected.*

The dose of the Wine is from twenty drops to ʒss. or a dram, according to the urgency of the symptoms; and the effect

* This does not correspond with the experience of Mr. Hayden, who has not found such decided differences in its strength at different seasons. He recommends the powder.

produced must direct us as to the frequency of repeating it. Deleterious consequences will occasionally result from very small doses, such as nausea, vomiting, frequent evacuations from the bowels, tenesmus, and sometimes discharge of blood, with considerable prostration of strength. A few drops of tincture of opium added to each dose, will generally obviate such effects.

Some practitioners have contended, that the use of colchicum increases the disposition to metastasis. Instances of this kind may have occurred, but I have never had an opportunity of witnessing such cases. It may be well to consider how far the retrocession which is known to follow the exhibition of this medicine in some cases of gout, has been confounded with this disease, for we surely ought not to discard a remedy which, in some cases of Acute Rheumatism, has been employed with such

evident success, until a sufficient reason can be assigned. I have witnessed undoubted benefit from its employment in a metastasis to the heart from some other cause; and this has been confirmed by other cases related to me, where the most favorable results followed its exhibition.

OPIUM.

Whether this remedy prove effectual in the removal of this disease, by its powerful sedative operation on the arterial system, or by inducing a general diaphoresis, is not very apparent; we can only speak to the fact, that Acute Rheumatism has been cured by opium, and an occasional purgative to obviate its constipating effects. Not that it is to be recommended as a medicine of general application, but rather as an auxiliary, after the removal of acute symptoms; especially in delicate habits, with irritable fibre. Its combination with

other remedies has been already alluded to, especially the *Dover's Powder*, which has long been a favourite medicine in Rheumatism. Sydenham and Storck strongly reprobate the practice of exhibiting opiates early in the disease.

DIGITALIS.

By allaying arterial action, foxglove proves a powerful adjuvant in the cure of inflammatory diseases, and is therefore entitled to particular attention in Rheumatitis. It is more especially applicable in those cases where considerable irritability is observed in the action of the heart; and where that organ has become the seat of what has been called rheumatic inflammation, it is almost indispensable, to exhibit digitalis freely, in conjunction with the other active antiphlogistic measures.

When the heart has already become enlarged, and contracted adhesions to the pe-

ricardium, it should be used with more caution as it can then only afford temporary relief; and by accumulating in the system, it may occasion such a degree of congestion in that organ as to endanger life.

The objections which operate against opium in the early stage of Rheumatitis, do not present themselves here, as foxglove exerts a direct sedative action, without previously exciting the arterial system.

Digitalis should be administered in the form of infusion or powder, as the operation of the tincture is at times uncertain; the infusion should be given in doses of $\mathfrak{z}\text{ij}$. or $\mathfrak{z}\text{ss}$. three or four times daily; and the powder from gr. j . to gr. ij .

Other sedatives are occasionally employed, such as hyoscyamus, conium, &c. but they are not much to be relied upon.

CINCHONA.

The confidence with which this bark is

recommended by some physicians, in this disease, induced me to examine the writings of authors who have given us their experience on the subject: for the high encomiums which have been passed on it, would almost entitle it to the appellation of a specific; but had Cinchona possessed such extraordinary power in the hands of others, it would certainly be much more generally employed in the present day; and not have fallen into disuse.

Dr. Saunders is stated to have cured Rheumatitis with Cinchona; I will however refer to his own words on this subject, for the purpose of convincing my readers, that he by no means relied implicitly or principally on it; but merely recommends it to be given when the disease assumes a periodical character, and after the acute symptoms have been subdued by blood-letting, &c. His words are, "It early assumes the form of a remitting fever, and under such circum-

stances a perseverance in the antiphlogistic plan is generally found to be ineffectual. I have in several cases of this kind employed a cold infusion of red bark, and the disease seemed only to give way, to this treatment;” in another place he says, “its inflammatory nature ought, in a certain degree, to be reduced by a moderate bleeding, occasional purging, and great dilution, before it can be treated as an intermittent fever; it does not however appear to me incompatible with the ideas of its being inflammatory, to have recourse to the moderate use of bark, to obviate the weakness which may be induced by the necessary use of the lancet. I have found in many cases by this practice, the Rheumatic Fever greatly shortened, and the debility and torpor in the joints, which is frequently the effect of that disease, together with the disposition to Chronic Rheumatism generally prevented. I commonly begin about the seventh day from

the attack, with the cold infusion of red bark, in the dose of three ounces every two or three hours, until the evening paroxysm comes on ; nor am I, by this practice, in any degree diverted either from general or local bleeding, or evacuations by stool, when the circumstances occur which may render them necessary”*.

These remarks cannot surely justify the conclusion, that Cinchona cures Acute Rheumatism ! I doubt not that instances might be adduced, where patients have recovered under the use of Peruvian Bark alone ; but every one is aware that it is a disease which will occasionally subside, without the aid of medicine.

Booerhave, in speaking of a form of Rheumatism, which he calls *Scorbutic* †,

* Saunders on Red Bark.

† Booerhave imagined the internal organs were more liable to suffer, in this species of rheumatism.

says, he found that it chiefly invaded women who had taken large quantities of Jesuits' bark. If subsequent experience should confirm this statement, it would undoubtedly operate much against the employment of this remedy.

Sir Edward Hulse, Dr. Fothergill, and others, have advised the use of cinchona, after the abstraction of blood and employment of other evacuants, even when some fever remained, under the impression that a strong analogy existed between it and intermittent fever.

Dr. Morton also recommended it; almost invariably premising a full bleeding and purgatives, which were occasionally repeated during the exhibition of the bark.

Dr. Haygarth has, perhaps, employed this article more extensively in Acute Rheumatism than any other practitioner; and his experience, therefore, becomes important.

He also abstracts blood before administering it, though with less freedom in the latter years of his practice than formerly.

From a careful perusal of Dr. Haygarth's work, I am not convinced that the disease was generally cured by the cinchona; for it is there evident, that unless blood-letting and purgatives had been sufficiently employed, bark tended rather to aggravate than subdue symptoms; and he advises, that it should not be persevered in when disagreeing in any way with the patient, but be suspended till inflammatory symptoms have been subdued by venesection, &c. Dr. H. used it in more than eighty patients, and with only one exception, always with some benefit.

Dr. Cullen, when speaking of the treatment of Acute Rheumatism, says, "the Peruvian bark has been supposed a remedy in some cases of this disease; but we have seldom found it useful, and in some cases

hurtful. It appears to me to be fit in those cases only, in which the phlogistic diathesis is already much abated ; and where, at the same time, the exacerbations of the disease are manifestly periodical, with considerable remissions interposed". In the *Materia Medica* he speaks less favourably of it.

Having given such copious extracts of the opinions of these eminent practitioners, it would be presumption to add more than a few remarks on its mode of exhibition. The powder in doses of ʒss. or ʒj three or four times daily, provided the stomach will retain it, is preferable to the decoction or infusion, which are to be given in doses of ʒj. or ʒij. every three or four hours.

Local applications are occasionally had recourse to in Acute Rheumatism ; but when we consider that it is a disease of the constitution, and not a mere local affection, it will not surprise us that they are

seldom useful, and often injurious. The extreme sufferings of patients have induced some practitioners to apply leeches to the affected joints, the result of which has been almost immediate relief to these inflamed parts ; but some other joint often suffers, or an internal viscus is attacked with acute inflammation of a most dangerous character. *Vide Cases, at the end.*

METASTASIS, OR TRANSLATION OF
RHEUMATIC INFLAMMATION.

WE have now to consider a most important phenomenon, not unfrequently observed in this disease.

The mere change of situation from one joint to another, so common in Acute Rheumatism excites no alarm, and is of comparatively little moment. But, under certain circumstances, the nature of which is obscure, and over which we have little

control, the rheumatic inflammation subsides in the joints, and translates itself to some important internal organ, and there produces, in a very short period, irreparable mischief which sooner or later tends to the destruction of the patient. The correctness of the term metastasis, may, I think, with propriety be questioned, for we may have these visceral inflammations in a rheumatic patient, without any cessation of the disease in the joints, sometimes even with an aggravation of the inflammation in the extremities.

Another objection might be urged to the term, on the probability that the inflammation of the internal organ differs from that attacking the joints; for as the termination of the former exhibits the usual results of common inflammation, and it loses the specific characters of rheumatic inflammation.

Instances are mentioned of its attacking the brain, lungs, stomach, &c. but it much

more frequently fixes itself upon the pericardium, and gives rise to those conditions of heart of which we shall presently speak.

METASTASIS TO THE HEART.

Until within these few years that species of diseased heart which is connected with Acute Rheumatism has not been described by authors ; although it is not as some have imagined of recent date.

Sir David Dundas in the Medico-Chirurgical Transactions, alludes to several instances of this rheumatic inflammation of the heart, and there urges the necessity of an early employment of very vigorous means for its removal ; for when it has made any considerable progress, he says, it will baffle every effort. I think the majority of cases of organic disease of the heart in young people, are connected with rheumatism ; and a more accurate inquiry into the subject than has been hitherto instituted,

will convince every one of the truth of this assertion, and call forth that deliberate attention which a disease of such importance so fully demands, for all are not agreed as to the precise nature of the disease, nor as to its causes and proper mode of treatment.

It is somewhat remarkable that Dr. Haygarth whose experience was very considerable, and who had paid particular attention to Acute Rheumatism, should have overlooked this interesting and important character of the disease.

Some of his fatal cases were probably affected with this morbid condition of heart; but as no mention is made of dissections in these patients, we must be completely undecided as to the absolute fact.

One of these patients had, a day before death pain in the left breast and difficulty of breathing without cough, and a diminution in the joint affections. Symptoms threatening syncope, such as a feeling of languor,

faintness and depression, attended three other cases which terminated fatally. We are at all events compelled to conclude that considerable obscurity must have attended the disease in question in these patients, or it would not have been unnoticed by so experienced a physician. Dr. Cullen makes no allusion to this disease. Dr. Hooper in his Medical Dictionary, scarcely notices its occurrence; and when speaking of inflammation of the heart, does not in any way refer to rheumatitis as at all connected with it.

Van Sweetan, in his Commentaries, after treating of the wandering nature of Acute Rheumatism, and of its alternately occupying external and internal organs, says, in section 1491, "Aliquando enim dolor in membris disparet, oritur pectoris anxietas, cordis palpitatio, pulsus intermittens, et redeunte ad membra dolore, hæc symptomata disparent; pulsusque paulo ante tremulus et intermittens,

denuo æqualis et liberrimus est;” and in sect. 1495 — “ Quamdiu rheumatismus articulos occupat tantum, acerbissimis sæpe doloribus miserè torquet ægros, et magnas molestias per totam vitam relinquit, sed rarò lethalis est: ubi capiti, vel pulmone incubuit, summum adest statim periculum, et quandoque subita mors sequitur;” again, “ Difficultas detegendi rheumatismum, dum cerebrum vel pulmonem occupat, quandoque non levis est. Ubi prius articulos occupavit malum et dolores articularum, absque bonis signis, levantur subito, novaque apparent symptomata, quæ cerebrum aut pulmonem affici docent, peritus medicus non dubitabit de metastasi materiæ morbosæ in hæc viscera, et monebit summum vitæ periculum adesse. Verum si incipiens rheumatismus antequam ullam partem corporis affecerit prius, statim pulmone aut cerebro incumberet, in diagnosi morbi summa foret difficultas.”

Storck states, “*Nonnunquam partes thoracis infestans laterales vehementem pleuritidem generat.*” And in another place—“*Non raro observatur dolor jam partes externas, jam internas occupare, tandemque in interioribus sedem figere, fixumque manere; hinc nonnunquam vehemens tussis, difficilisque respiratio, sæpe cephalalgia intolerabilis,*” &c.

It is an unfortunate circumstance, that these authors have given us no cases of dissection to elucidate the cause of those symptoms which they have so satisfactorily described; as from a comparison of such cases with others, in which the symptoms have been similar, and where dissection has proved the existence of disease of the pericardium, I am inclined to think the same appearances would have been discovered.

This affection of the heart, occurs at the commencement of the rheumatic attack, or at any subsequent period; and it may be

attended with severe rheumatic inflammation of the joints, or, in some cases, it will appear on the sudden abatement of such inflammations. The affection of the heart is sometimes simultaneous with the rheumatic inflammation of the joint, and it would appear, occasionally, to precede the inflammation of those parts. The disease is the same, whatever may be the condition of the joints, and requires the same treatment. The following symptoms indicate the presence of this inflammation. Pain in the region of the heart, extending to the back, with inordinate palpitation, considerable dyspnœa and oppression of the chest, the respirations being much hurried and painful; and when an attempt is made to inflate the lungs, it causes considerable increase to the pain of heart; expression of countenance anxious and peculiar; pulse hard, strong and frequent, with a general restlessness: to which may be added a fre-

quent dry cough; pain of head, occasional giddiness, and throbbing of the carotids.

When the inflammation extends to the lungs, these symptoms will of course be modified.

We must not expect that the disease will always be so well marked; for the symptoms just enumerated are occasionally obscured by the presence of others of less immediate importance, viz. rheumatic affection of the muscles of the chest. But a careful investigation will generally discover inflammation of the heart when present. I witnessed one example of this kind in the Royal Infirmary of Edinburgh, where it appeared from the treatment which the patient had been subjected to, before admission (for no blood had been lost), that the metastasis was overlooked; and at that time irreparable mischief had been produced.

That acute inflammation does occasion-

ally attack the pericardium, without the existence of that train of symptoms usually characterizing it, the cases, in the sequel, abundantly prove.

It is a most lamentable circumstance that patients should often neglect to apply for relief until such mischief has been produced, as will not admit of cure; from the persuasion that a perseverance in domestic remedies will remove the rheumatic affections of the joints, and with these the other symptoms.

Unless very active measures are used, from the first appearance of disease in the heart, a complete recovery must not be expected, as the patient will either die in a few days, from the immediate effects of acute inflammation, or the foundation will be laid for a train of distressing symptoms, depending generally on enlargement of the heart, with adhesion of the pericardium to its surface, partially or

universally: the pulse then becoming somewhat irregular as to frequency and strength; palpitation, from slight causes, inordinate, and never absent; head often suffering from pain and giddiness, in addition to which are present certain anomalous (nervous) symptoms, referable to the disturbed state of the arterial and cerebral functions; and the disease generally terminates with symptoms of hydrothorax, from an effusion into the cavities of the chest, and into the pericardium, when the condition of that membrane will admit of it.

CAUSES OF METASTASIS.

A question of considerable moment now presents itself, how far this affection of the heart is referable to any mode of practice which may have been pursued in the treatment of the rheumatic inflammation of the joints?

It has been contended that general blood-

letting disposes to this metastasis ; how far this opinion may be the result of experience or speculation, I must confess myself unable to decide, it having never fallen to my lot to witness one instance of this occurrence, which could without hesitation, be referred to such a cause. On the contrary, they have been either referable to the too cautious abstraction of blood in the commencement of the disease, or to the entire omission of such a practice. And symptoms of inflammation of the pericardium sometimes precede, or are simultaneous with the rheumatic affection of the joints, prior to the employment of any measures for the cure of the disease.

Some individuals who object to the use of the lancet, have, and as I think, with much less propriety, recommended the application of leeches* to the inflamed joints,

* I do not here allude to Sciatica, Lumbago, &c. where a combination of local and general bleeding is often required.

to abate the severity of the pain,—the bad effects of which will be seen in the cases already mentioned, and no doubt many might be found where similar serious consequences resulted from their employment.

Cold lotions have been used in such cases, but practitioners who could advise such a practice, must have a similar idea of the nature of acute rheumatism with the late Dr. John Brown, who says, “There is no translation of the inflammation to the internal parts, for this reason, that these parts, which preserve nearly an equal temperature, amidst every change of it externally, are not acted upon by the same hurtful power which annoys the external parts.”

METASTASIS TO THE BRAIN.

The cerebral functions are sometimes disturbed in this disease, from attacks of inflammation, and other conditions of the organ.

Symptoms of Phrenitis most frequently result from the metastasis, several cases of which are on record, but the morbid appearances do not correspond with the history of such patients. I have seen one case of this description, but there the excitement in the brain did not amount to phrenitis, but was similar to that seen in some fevers: for another instance see Case III.

Coma is mentioned as a state produced by the same occurrence.

It is said to attack the intestines occasionally, and to cause diarrhœa. According to the late Dr. James Curry, gastritis is a disease that may occur from the translation of rheumatic inflammation.

DISSECTION OF FATAL CASES OF METASTASIS TO THE HEART.

The morbid appearances exhibited by dissection, vary according to the length

of time the disease has existed, and depend on the violence and nature of the symptoms accompanying it.

Should the patient die prior to the abatement of acute symptoms, or within a few days or even weeks from their first appearance, we must expect to discover a condition of parts corresponding to the nature of the diseased action: adhesive matter will be deposited on the surface of the heart and pericardium, exhibiting what has been denominated a honey-comb appearance, very characteristic and striking. The quantity of this deposition varies considerably, and we often find bands of recent adhesive matter extending from the pericardium to the heart; and these admit of being injected with size. Turbid serum is contained in the pericardium, occasionally assuming a sero-puriform character, and sometimes tinged with blood.

Where the disease has been of a more

insidious character, and unattended with those evident marks of high action, or when, by moderate antiphlogistic measures, it has somewhat abated in violence; the life of the patient may be protracted for months or years; although it be a state of constant anxiety and suffering to the patient, and a condition which is witnessed with pain by the practitioner, as he possesses scarcely any controul over it; I say should this be the progress of the case, dissection will afford other appearances, such as have been well described by Sir David Dundas, in an early volume of the *Medico-Chirurgical Transactions*. He invariably found the heart enlarged, its magnitude varying, the amplification being chiefly confined to the left ventricle. Its muscular texture was pallid and tender. In one case, water was contained in the pericardium; in the others, that membrane adhered to the surface of the heart.

Ballonius, under the head of *Palpitatio Cordis*, mentions the organic changes which this viscus undergoes, and alludes to that state of amplification and adherent pericardium, described by Sir David Dundas; but does not connect these appearances, in any way, with Rheumatism.

We sometimes meet with similar appearances accidentally, when examining bodies of patients dying of other diseases. It is probable however that a due investigation into the history of such cases, would have discovered circumstances to account for these organic changes.

White patches are not unfrequently seen on the surface of the heart, and it is not improbable that they are the result of previous rheumatic inflammation of the investing pericardium. Such appearances are by no means to be considered as important, for they do not, in the least degree, impede the healthy functions of the heart;

nor can they be known to exist by any set of symptoms ; they may perhaps be considered as the favorable termination of the disease we have just considered.

Dissection discovers no material difference between idiopathic inflammation of the pericardium, and that connected with Acute Rheumatism : I have examined three cases of that description, in neither did the pericardium adhere to the heart, and in one, bloody serum was effused, but the honeycomb deposit was well seen in both.

It is scarcely necessary to add any thing in the way of *treatment* ; for it must be evident, that the antiphlogistic plan should be carried to the fullest extent, and the exhibition of a full dose of opium from gr. ij. to gr. iij. after free bleeding, will generally be very useful in these cases.

The local abstraction of blood by cupping glasses, or leeches, is an additional valuable remedy in these affections of the

pericardium. External irritants should succeed their employment; such as repeated blisters, mustard poultices, &c. All these measures, with the other antiphlogistic remedies, must be used very early or our success will be imperfect, from the adhesion of the pericardium, and when the disease has become chronic, we can only hope to afford partial relief by perpetual blisters, issues, setons, or the application of the Ung. Tart. Antimonii, or other means calculated to answer similar ends.

CASE I.

December 22, 1822.

William Brown, æt. 20, was attacked four days ago, after exposure to wet and cold, with febrile symptoms, soon followed, by acute pains in several of the joints, which are at present very severe, with pain in the region of the heart: respirations hurried and anxious: palpitation consider-

able; countenance distressed; cough frequent, loose, and painful; pulse 120, strong, hard, and contracted; tongue white; much thirst; bowels constipated.

Sit V. S. ad $\text{z}xvj$ statim.

Cap. Inf. Sennæ et Magn. Sulph. 2^{da} q. q. h. donec alv. purg. et postea

Tinct. Digit. m x 4^{ta} q. q. h. ex Inf. Rosæ.

23d.—No relief by bleeding; blood buffed; symptoms nearly the same:

Rep. V. S. ad $\text{z}xij$, et Digit. ut antea.

24th.—Bleeding gave temporary relief only to pain of chest; joints somewhat easier; pulse 126, jirking.

Rep. Digit.

℞ Hydr. Submur. gr. ijj

Antim. Tartar. gr. $\frac{1}{3}$

Opii gr. j . ft. Pil. h. s. s.

Cuc. Cr. ad $\text{z}x$ reg. cordis.

25th.—Pain in left side of chest less

acute; anxiety of countenance and distress in breathing the same; makes but little complaint of joints; pulse as yesterday.

Appr. Hirudines xij lat. sinist. et Emp.

Lyttæ postea.

Intermitt. Med.

Sumt. Ext. Conii gr. v. c Ipecac. gr. j

8^o ter die.

This lad lived till Jan. 8th, without any abatement to his sufferings, and towards the close the anxiety of countenance and distress in breathing were considerable.

Dissection.—A honeycomb deposit on the heart and inner surface of the pericardium, with a few bands of adhesive matter attaching these parts together: a few ounces of very turbid serum were contained in the pericardium, with flakes of lymph floating in it. Heart itself not enlarged nor altered in structure.

Two cases very similar to the above occurred at Guy's Hospital about five years

ago at the same time, a brother and sister neither of them above twenty.

The only difference was, that in one of them, in addition to the usual adhesive deposit, a quantity of perfect pus had been formed in the left cavity of the chest.

CASE II.

About five years since, also, a most severe and interesting case of the same nature was successfully treated by Mr. Stocker. The lad in whom it occurred was about nineteen, of spare habit, and much reduced by starvation and venereal symptoms. Sixty ounces of blood were removed from his arm in as many hours; he was also cupped, leeches, and blistered; in addition to which, purgatives and digitalis were administered, and under this most judicious treatment he was restored to health.

CASE III.

Mr. S., æt. 25, after exposure to cold, in October last was attacked with acute Rheumatism. The pains of the ancles and wrists were so exceedingly distressing as to induce the surgeon to apply leeches, the result of which was almost immediate relief; at the same time he took a brisk purgative, and subsequently diaphoretics.

About twenty-four hours after the application of the leeches, I first saw this gentleman, at which time he complained much of a sense of weight in the head, and some impatience of light and sound, accompanied with a wild anxious expression of countenance, occasional rambling, strabismus, and impaired vision; pulse 110, hard and full; tongue whitish and moist; skin soft, with some perspiration.

From the history of this patient, more particularly in reference to the mode of

treatment, I was disposed to consider it a case of metastasis to the brain, although the mental faculties were unimpaired, and no decided delirium accompanied it.

With this persuasion, I proposed a full bleeding from the arm (sixteen ounces), and the exhibition of five grains of submuriate of mercury, succeeded immediately by senna and salts, until several copious evacuations were produced. We also agreed on the application of leeches to the temples, and cold lotion to the shaved head, in the evening, provided the symptoms did not materially subside.

The symptoms continuing at night, the measures agreed upon were pursued.

On the following morning, the only alteration in the symptoms was a diminution in the impatience of light and sound. The blood drawn yesterday was much buffed and cupped.

A repetition of venesection, to \bar{z} xij, and

purgative medicines were prescribed, with a perseverance in the cold lotion.

In the evening, the bleeding was repeated to ℥x ; from the highly inflammatory character of the blood drawn in the morning, and from symptoms remaining which indicated that mischief was still going on. On the next (third) day, the bleeding was repeated to twelve ounces, and eight ounces were drawn on the fifth day.

The blood, to the last, exhibited signs of inflammation; after this, by keeping up a constant action on the bowels, the head affection was gradually subdued, and on the 8th day from its appearance had entirely subsided.

CASE IV.

A lad, of about sixteen, presented himself at Guy's Hospital, with an evident morbid state of heart, and probably the result of organic disease, which was appa-

rently induced by the application of leeches, to rheumatic inflammation of the joints.

CASE V.

Thomas Cope, æt. 27, had laboured under a severe stricture of the urethra, with fistulous openings in the perineum, for several years, which had been much relieved by the use of sounds, &c. ; afterwards an operation was performed for the cure of the fistulæ, Nov. 27, 1823, the result of which was in every respect satisfactory. On Dec. 19, he was suddenly attacked with pain in the epigastrium, increased by pressure and a full inspiration ; pulse 90, rather oppressed and contracted, accompanied with an anxious expression of countenance ; hurried respiration and occasional vomiting ; tongue dry, and red in centre ; bowels open.

Sit V. S. ad ʒxij statim.

℞ Hydr. Submur. gr. j.

Opii Extract. gr. j ft.

Pil. 6^{ta} q.q. h. sumend.

20th.—Blood much buffed and cupped; tongue universally brown and dry; pulse 100, hard and contracted; makes very little complaint of pain; anxiety of countenance increased; almost constant nausea.

Rep. V. S. ad ̄xij.

Rep. Pil. ut antea,

App. Emp. Lyttæ scrob. cord.

21st.—The buffy appearance of the blood was evident almost immediately, and it soon became much contracted; the vomiting has increased; pulse more frequent; other symptoms not diminished; blister has scarcely risen.

Rep. V. S. ad ̄x.

Rep. Pil. 8^{vis} horis.

℞ Sodæ Sulphat ʒj.

Sodæ Carbon. ʒss.

Aq. Menth. Vir. ʒj M. f. Haust.

6^{ta} q. q. h. sum. cum Succ. Limon. recent. ζ ss in actu effervescentiæ.

On the evening of the 21st, there was considerable intermission and irregularity in the pulse, and he was in every respect much worse, and decidedly sinking; brandy and water was prescribed occasionally, pro formâ*.

22d.—Symptoms in every respect aggravated.

23d.—Died early this morning.

Dissection.—The investing and reflected portions of the pericardium were covered with adhesive matter, and flakes of lymph floated in about three ounces of turbid serum contained in the pericardium; substance of the heart healthy; no valvular disease; *liver* much indurated and gra-

* I have refrained from entering into any particulars concerning the surgical part of the case, as my brother, Mr. Cox, surgeon, will probably detail it more fully at a future period.

nular, and it had contracted adhesions to the neighbouring parts, which were firm, and consequently of long standing.

CASE VI.

Of a gentleman, aged 72, exhibited similar morbid appearances; he also was suffering from stricture of the urethra, and incontinence of urine.

He had been in the habit, till within forty-eight hours of his death, of walking two or three miles daily, and died, according to his friends' account, rather suddenly, without any very marked symptoms, nor were his sufferings of a nature to appear to require medical aid.

THE END.

and it had contracted adhesions to
the neighbouring parts, which were firm
and consequently of hard consistence.

CASE 11. A young man, aged 20,

of a robust frame, aged 20, had been

about a fortnight, he also was

suffering from stricture of the urethra, and

inconvenience of urine, &c.

He had been in the habit, till within ten

or eight days of his death, of walking two

or three miles daily, and died accordingly

to his friends, according to his usual

without any extraordinary symptoms, nor

HOYER'S CASES OF RHEUMATISM, &c.

was his recovery of a month's duration,

before he died.

He was buried in the church-yard of St. Martin's

on the 10th of August, 1788.

He was a native of the city of London, and

was a member of the Society of Friends.

He was a person of a liberal and generous

disposition, and was highly respected by his

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