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A
PROBATIONARY ESSAY

ON
BRONCHOCELE ;

SUBMITTED,
BY AUTHORITY OF THE PRESIDENT AND HIS COUNCIL,
TO THE EXAMINATION OF THE
Royal College of Surgeons of Edinburgh,
WHEN CANDIDATE
FOR ADMISSION INTO THEIR BODY,
IN CONFORMITY TO THEIR REGULATIONS RESPECTING THE
ADMISSION OF ORDINARY FELLOWS.

By **ARCHIBALD INGLIS, M. D.**
EXTRAORDINARY MEMBER OF THE ROYAL MEDICAL SOCIETY.

MARCH, 1825.

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1825.

PROBATIONARY JURY

BRONCHOEITIS

LIMITED

OF THE NATURE OF THE DISEASE AND THE COURSE

OF THE BRONCHIAL TUBES

By the Surgeon-General of the Army

WALTER HENNING

FOR THE PUBLISHERS

THE MEDICAL OFFICERS OF THE ARMY AND THE ROYAL NAVY

BY ARTHUR HENNING

1887

LONDON: H. K. LEWIS, 10, BUNYARD LANE, E.C. 4.

1887

TO
MAJOR GENERAL
SIR WILLIAM INGLIS, K. C. B.

&c. &c. &c.

AND
LIEUT. COL. ARCHIBALD SPENS,

LATE
QUARTER MASTER GENERAL

OF THE
HON. EAST INDIA COMPANY'S ARMY

AT
BOMBAY,

THIS ESSAY IS MOST DUTIFULLY INSCRIBED BY THEIR
AFFECTIONATE NEPHEW,

THE AUTHOR.

MAJOR GENERAL

SIR WILLIAM INGLIS, K. C. B.

ESQ.

AND

LIEUT. COL. ARCHIBALD SPENCER

LATE

QUARTER MASTER GENERAL

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ATTENTIONATE Nephew,

THE AUTHOR

ESSAY

ON

BRONCHOCELE

THE subject of tumours has, from the earliest times, formed a most important division in the arrangement of works on Surgery ; but, in the absence of correct anatomical knowledge and pathological observation, much ignorance and uncertainty for a long period prevailed concerning their true seat, their structure, and the mode of their formation ; and it is only within a few years that any attempt has been made to classify and arrange them in a scientific manner.

As they frequently derived their names from their situation, or from parts lying near them, the term Bronchocele was early applied to tumours occurring in the fore part of the neck ;

but as these tumours must vary according to the structure in which they take their origin, this appellation included diseases of the most opposite nature and characters, thus giving rise to much confusion. Afterwards, when more minute distinctions were made, from the indefinite nature of the word itself, it was by some applied to tumours of one kind, and by others to those of a different nature; hence it has been used in describing scrofulous, encysted, and even aneurismal tumours. The impropriety of applying a term of this nature to diseases equally liable to occur in various other parts of the body being obvious, it is now in a great measure limited to those tumours which are peculiar to the neighbourhood of the trachea, and especially to those enlargements of the thyroid gland, which chiefly occur endemically in certain countries and districts, and to which the name of *goître* and other appellations are also given.

Whether the disease in all these cases occupies the thyroid gland itself, or in a proportion of them, as some assert, has its seat in the cellular substance adjacent to it, the gland itself re-

remaining unchanged, cannot be easily ascertained during life, though the situation of the tumour, at least as to external appearance, would generally lead to the former conclusion. I shall, therefore, in the following pages, restrict the definition of Bronchocele to those chronic tumours which, in their commencement, occupy externally the region of the thyroid gland.

The disease, in its most common or endemic form, usually commences, without any previous constitutional symptom, by the appearance of a small tumour, of an oblong or oval figure, a little above the sternum, extending obliquely upwards at one side of the trachea, somewhat in the direction of the sterno-mastoid muscle, part of which either covers the anterior surface of the tumour, or it is pushed to a side by it. Occasionally the tumour appears on both sides of the trachea at once, or the one side becomes affected some time after the other; in both these cases, the intermediate portion of the gland, which lies on the fore part of the trachea, becomes also enlarged. Frequently one side

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only is affected through the whole course of the disease, and the right side is said to be oftener affected than the left. The tumour thus formed increases gradually at first, and afterwards more rapidly, but appears to cease growing after having acquired a certain size, which, however, varies much in different individuals. In those countries where the disease is most frequent, the size which the tumour acquires is sometimes prodigious, reaching as high as the ears, and hanging down in a pendulous form over the breast. Even when the tumour has acquired this immense size, the skin which covers it rarely ulcerates or undergoes any important change, the superficial veins only becoming varicose, as in most tumours of large size. It is likewise asserted by Foderé, that the tumour is subject to periodical increase and diminution. He says, “ dans les temps secs, quand la terre a soif, dans l’hiver, quand tout gèle, si le goître est petit, il disparaît ; s’il est gros, il diminue : mais quand les pluies du printemps s’approchent avec chaleur, le goître reparait, il augmente

avec les pluies d'automne ; et si l'hiver est doux et pluvieux, il reste tel."* It is, however, likely, that, in making this observation, Foderé was somewhat biassed by the opinion which he had formed with regard to the causes of goître, as this periodical increase and decrease of the tumour seems altogether to have escaped the observation of others.

Bronchocele is much more common in women than among men ; and in those countries where it is most frequent, it usually commences about the tenth or twelfth year ; it is liable, however, to occur at any age, and has been observed to commence much later, especially in those who have removed from places which are free from it to those where it abounds. It may likewise occur at a very early period of life ; and where the disease is hereditary, which is frequently the case, children are often born with it.

When the tumour has acquired a considerable growth, it becomes a source of great inconvenience and even of danger, from its pressure on

* Foderé Traite du Goître et du Cretinisme, p. 61.

the important organs around it. Respiration, especially, is very frequently impeded by its pressure on the trachea; and this obstruction is often felt even when the tumour is small, while in other instances it becomes pretty large without producing it. This difference is supposed by Mr A. Burns to arise from the different state of the muscles on the fore part of the tumour, the breathing being more or less affected in proportion as they resist or give way to its increase.* The difficulty of breathing is much increased on making any exertion, as on going up a hill, &c. Independent of the effects supposed to be produced on the structure and development of the brain, by the compression of the vessels of the neck, the jugular veins are also said to have been compressed by the tumour to such a degree as to produce fatal apoplexy.† Considerable difficulty of swallowing has also been frequently experienced when the tumour has acquired a large size.

* Surgical Anatomy of the Head and Neck, p. 187. 194.

† Haller's Pathological Observations, obs. 5th.

On dissection the disease is generally found to have its seat in the thyroid gland, which is greatly enlarged and converted into a structure, apparently similar to that denominated by Abernethy the cystic sarcoma, being a substance of a firm consistence, interspersed with numerous cysts containing a viscid, and sometimes a bloody fluid.* In other instances, these cysts have been said to contain several of the various substances found in encysted tumours, steatomatous, earthy, and bony matters, &c.† By some they have been described as hydatids, filled with a transparent colourless fluid; and in one remarkable instance of this kind, death was suddenly occasioned by one of them making its way into the trachea.‡ In some cases the disease is said to have assumed a cancerous form, running through all the stages of that horrid

* Baillie's Illustrations of Morbid Anatomy, Fasc. 2d, Pl. 1st. Burns' Surgical Anatomy of the Head and Neck, p. 190.

† Haller's Pathological Observations, *ut supra*. Celsus, lib. 7. c. 13.

‡ Gooch's Observations in Surgery, vol. ii. p. 99.

disorder, and terminating in fatal hemorrhage from the carotid artery.*

Another kind of tumour peculiar to this part of the neck, and sometimes described under the name of Bronchocele, but occasionally denominated, with more propriety, hernia gutturis, is said to be produced by the protrusion of the lining membrane of the trachea between two of its cartilaginous rings.† This tumour, though frequently described, is probably of rare occurrence, as a great proportion of the cases said to have arisen from violent exertions, which alone could cause such a tumour, appear to have been the common affection of the thyroid gland itself.

It has likewise been found upon dissection, in some cases supposed to have been the common Bronchocele, that the disease has had its seat in the adjacent cellular membrane, the thyroid gland remaining unaffected. In others,

* Turner's Art of Surgery, vol. i. p. 194. See also Burns' Surgical Anatomy, p. 207.

† B. Bell's System of Surgery, vol. v. p. 516.

both the gland and surrounding cellular substance have been included in the disease.

Bronchocele prevails endemically in various and very distant parts of the world; but its existence seems in a great measure limited to Alpine and hilly countries, or the valleys and plains adjacent to them; many countries, however, of this description are altogether free from it. In Europe it is found chiefly in districts situated among or in the neighbourhood of the Alps, Appenines, and Pyrenees, and in the mountainous parts of Germany and Spain, and in our own country it is extremely prevalent in Derbyshire. In Asia it has been observed in China, in some parts of India, and in the islands of Java and Sumatra. It has also been observed in several parts of North and South America.

Having thus given a history of the external appearance of Bronchocele, its effects on the corporeal functions, its appearances on dissection, and the countries where it is found, the next object worthy of consideration is its effect upon the faculties of the mind, and par-

ticularly its connexion with a state of mental imbecility, which has received the appellation of Cretinism. The reality of the connexion between Cretinism and Bronchocele has been much disputed; but their concurrence in the same individuals, and in the same districts, has been too frequently observed, to permit us to doubt that they at least arise from similar causes; and, in the present imperfect state of our knowledge with regard to the functions of the thyroid gland, we cannot altogether deny the possibility of a closer connexion between them. Independent, indeed, of any effects which might be supposed to be produced by derangement of the function of the gland, it has been suggested by Foderé, that the pressure of the tumour upon the great vessels connected with the brain may, by modifying the state of the circulation in that organ, produce an effect of this nature upon the intellectual faculties.* And if the conjecture of Dr Parry be proved to have any real foundation, that the

* Foderé, p. 186.

thyroid gland is intended as a diverticulum for the blood, when disposed to flow with too great force towards the brain, an additional influence on the circulation in that organ may be produced by the existence of Bronchocele.*

As these opinions, however, are merely theoretical, and afford but little assistance in guiding us to form an opinion on the subject we are considering, I shall proceed to state the facts which have been observed regarding the connexion of the two diseases, and the objections which have been urged against their validity

1st, It is asserted by Foderé, that in the greater number of instances of goître, the faculties of the mind become duller as the disease advances, and, when it has reached its greatest growth, the ideas are much the same as those which are formed in the first years of childhood.† The truth of this statement, so far

* Parry's Elements of Pathology and Therapeutics p. 188.

† Foderé, p. 70.

as regards the general foolish appearance and stupidity of those affected with goître, in some places where it is endemic, and especially in the neighbourhood of the Alps, is confirmed by many who have visited these countries, though scarcely perhaps to the extent here alleged. On the other hand, in several districts where Bronchocele is prevalent, it is not accompanied by any affection of the mind. This may in particular be remarked in this country; in several parts of which, as Derbyshire, &c., this disease abounds, but unattended with any degree of mental imbecility. And even in countries where cretinism exists, very intelligent people are sometimes found having goîtres of large size.

2dly, The degree of mental alienation above described is far from being what is understood by a state of complete cretinism, which is an affection existing from birth, and for the most part hereditary. The unfortunate beings who are the subjects of it join to a state of complete mental imbecility, a deprivation, or at least imperfection, of all the external senses, a distorted

countenance, a feeble and deformed body. The greater number of these cretins have at birth, according to Foderé, a goître about the size of a nut; some, however, are exempt from this, and in the others it rarely acquires a size nearly equal to that of those who are not affected with cretinism, frequently not exceeding that of a small apple.* In these cases, then, the mental affection could scarcely be the immediate effect of the pressure of the goître on the great vessels of the neck.

3dly, It is farther asserted by Foderé, that cretinism is derived in hereditary descent from those affected with goître.† The establishment

* Foderé, p. 122. 128.

† The order of succession, in which he says that they occur, is remarkable. *First*, with regard to goître :

1o. Si le goître n'est qu'accidentel, et qu'il n'y ait qu'un des parens d'affecté, les enfans ne naissent pas goîtreux.

2do. Ils naissent, au contraire, goîtreux, si, de père en fils, un goîtreux a épousé une goîtreuse pendant deux générations, et dans un pays où le goître est endémique ; à la troisième génération, l'enfant qui naît est non-seulement goîtreux, mais il est encore cretin.

of this fact, instead of supporting his theory, would, as it appears to me, be still more conclusive against the probability of its being the result of the pressure of tumour, although it would, at the same time, confirm the idea of a certain connexion between the two diseases. If we compare, however, the number of cases of cretinism with those of goître, in those places of which Foderé has given an exact statement, we will find that the number of the former is much smaller than would have been produced

3o. Un père faible, mal-sain, rachitique et à demi cretin, marié a une goîtreuse, produit des enfans goîtreux à la première generation. *Traité du Goître, &c.* p. 69.

Secondly, With regard to cretins :

1o. Si un mâle goîtreux, fils de goîtreux, à demi cretin, epouse une femme aussi demi-cretine, leur enfant est tout-à-fait cretin.

2do, Si au contraire un mâle cretin, au deuxième degré, epouse une femme de la montagne, bien constituée de corps et d'esprit, de cette union naîtra un enfant qui ne sera cretin qu'au troisième degré, &c. p. 138.

by the regular hereditary succession which he affirms.*

The only conclusion, then, that can be drawn from these various facts is, that in many countries, the causes of Bronchocele and of Cretinism co-exist; but as the nature of these causes is, as we shall presently find, involved in much obscurity, nothing certain can be determined with respect to their connexion.

The causes of Bronchocele may be divided into, 1st, The occasional exciting causes; and, 2dly, The general causes which operate in producing the disease endemically.

* He gives the population and proportions of goître and cretinism in the four following places:

Emarése. Population, 600. Almost no goîtres. One cretin of the third order, *i. e.* affected in the smallest degree.

Verres. Population, 680. Goîtres more abundant. Four perfect, five imperfect cretins.

Challant. Population, 980. Almost all goîtres. Four perfect, 32 imperfect cretins.

Donas. Population, 1133. Almost all goîtres. 34 perfect, a great number of imperfect cretins. *Traité du Goître et du Cretinisme*, p. 176.

1. The most frequently alleged exciting cause of Bronchocele is violent exertion of any kind. Most of the cases which occur occasionally in this country are attributed to some cause of this nature; its frequency among women, especially, is attributed to violent straining during parturition; and even in those countries where the disease is endemic, it is said to be frequently excited by this cause, in those whom other circumstances have predisposed to its attack. Lifting or carrying heavy weights is another cause supposed to act in the same way. If this were the case, however, it is surprising that the disease should be so rare in men.

It is not easy to conceive in what manner these causes act in producing Bronchocele, nor does the nature of the tumour thus produced seem to be exactly ascertained. By some it is asserted to be emphysematous, being caused by the air being forced, during a resisted expiration, into the ducts which have been supposed to communicate between the trachea and the interior of the thyroid gland, which consequently becomes dilated. The same effect is

said by Foderé to be produced during pregnancy, by the impediment which exists to the free motion of the lungs. These ducts, however, have never been satisfactorily demonstrated, and their existence is now very generally doubted. Foderé, likewise, in another part of his treatise, ascribes the production of the tumour, in general, to the obstruction of these ducts, in which case the passage of air could not be concerned in producing it.*

On the other hand, Dr Parry having observed a connexion between those diseases in which there is an increased determination of blood to the head, and enlargements of the thyroid gland, the latter being accompanied with sudden augmentations and diminutions of the tumour, ascribes them to an influx of blood into that organ.† As violent exertions have a similar effect on the distribution of the blood, may they not act in the same way?

* Foderé. Compare p. 62 with p. 102, *et seq.*

† Parry's Elements, *ut supra.*

2. The causes of endemic goître have been a subject of much dispute, and although a great deal has been written concerning them, they remain buried in almost as much obscurity as ever, each successive work tending rather to refute the opinions of those which have preceded it, than to lay any solid foundation for a more tenable hypothesis. The causes which have been most commonly assigned are, the use of snow-water, of water impregnated with earthy matter, of indigestible food, and, lastly, the nature of the climate. Some of these have been so completely refuted, that they may be very briefly discussed here, the last only requiring much consideration.

To the opinion that the use of snow-water is the cause of Bronchocele there are insuperable objections; for, independent of the natural purity of such water, the disease has never been observed in Greenland, where the inhabitants can obtain no other; while in the islands of Java and Sumatra, where no snow ever falls, the appearance of Bronchocele is not unfrequent.

Besides which, it is remarked among the Alps, that those who live nearest the glaciers and the snowy summits are least liable to its attacks.

That water impregnated with earthy matter is the cause of goître is objectionable on similar grounds, as it is found to occur in individuals using every variety of water from the purest to the hardest; and it has been also observed, that in towns supplied by the same stream, the people of one may be almost all affected with goître, while those of another, a few miles off, are perfectly free from it.

That particular articles of food, of an indigestible nature, are the cause of Bronchocele, is an opinion scarcely more tenable. Chestnuts being a frequent article of food in Switzerland and the northern parts of Italy, where goître abounds, have been conjectured by some to give rise to this disease; but it is shewn by Foderé, that it occurs as much among the wealthy, who enjoy every variety of food, as among those who are obliged to subsist on food of the nature above described; also, that these articles of food, and others even less nutritious, are in

general use over large districts, in limited portions of which only goître occurs.*

With regard to climate, it was observed by Saussure, that in various parts of the Alps visited by him, the valleys where goître most abounded lay in close sheltered situations, rendered extremely hot by the reflection of the sun's rays from the rocks which bounded them, and by the absence of wind. The heat and stagnation, to which the air was thus subjected, were supposed by him to produce deleterious changes upon it, (their nature he did not attempt to explain,) which, with want of industry and attention to cleanliness, he regarded as the causes of goître and cretinism.†

Foderé having remarked the same circumstances, argues that the only effects which can result from them are the saturation of the air with moisture. This effect, he observes, is increased by the abundance of fruit-trees in these districts, and the vicinity of marshes and pools

* Foderé, p. 90.

† Voyage dans les Alpes, vol. iv.

of water. He then, having endeavoured with great ingenuity to trace the effects of a moist and humid atmosphere in all climates, in blunting the energies of the mind and relaxing the solids of the body, shews that in the particular districts where goître and cretinism occur, such a state of the atmosphere exists in the highest degree, and hence that these two diseases are its immediate consequences. He further shews, from a series of hygrometric observations made in the valley of Aoste, that the prevalence of goître there bears an exact proportion to the actual state of the moisture of the air.* These remarks, from Foderé's opportunities of observation, being himself a native of the country, and from a consideration of the nature of the districts where the disease is most prevalent in Europe, seem very deserving of attention; but let us contrast them with those of M. Humboldt in America.†

The observations of M. Humboldt refer

* Foderé, p. 158, *et seq.* and his Preliminary Discourse.

† Magendie, *Journal de Physiologie*, vol. iv. p. 109.

chiefly to facts observed by him in the valleys of the Rio Cauca and Rio Magdalena in New Grenada. These two rivers have their sources in the same latitude, $2\frac{1}{2}^{\circ}$ N., run nearly parallel to each other, and almost due north, unite their streams in 9° N., and reach the sea near the Gulf of Darien. In the whole course of the Magdalena, until its junction with the Cauca, goître and cretinism prevail; yet while in the lower part of the valley, from Honda downwards, the air is humid and stagnant, in the upper part above that town, the winds are constant, the heat excessive, the soil dry and deprived of vegetation. On the Cauca, on the contrary, which in every respect resembles the lower part of the valley of Magdalena, these diseases are unknown. Again, in ascending the heights to the south-east of Honda, goître gradually disappears, in the same manner as it is constantly observed to do among the Alps; but on reaching the plain of *Sta. Fe de Bogota*, 6000 feet above the bed of the Magdalena, the goître again appears. Of this plain he gives the following description:—"Ce plateau alpin est

une plaine sans arbres ; le vent y souffle avec impetuosité, et aucun pays du monde peut moins ressembler au Valais et a ces gorges de la Savoie ou regne le cretinage.”

The insufficiency of any of the alleged causes of Bronchocele will be more obvious from the summary which M. Humboldt has given of the nature of these districts. The disease prevails, as we have already stated, in the three following places ; the inferior part of the course of the Rio Magdalena, the superior part of the same river, and the plain of Bogota. The first of these regions is a thick forest, the second and third are destitute of vegetation ; the first and third are at the maximum of humidity, the second is extremely dry ; the wind blows with violence in the second and third, the air is stagnant in the first. With regard to temperature, the thermometer (centigrade) ranges between 22° and 33° in the two first, in the third between 4° and 17° . In none of them is the water the product of melted snow ; it flows from rocks of granite, of sandstone, and of limestone ; the water of Bogota differs in tem-

perature from that of Mompox, on the Magdalena, by nine or ten degrees.

On such conflicting statements I cannot pretend to give an opinion, but shall proceed at once to consider the treatment of this disease.

The treatment of Bronchocele consists, *1st*, In the use of those local remedies which act on the principle of causing a derivation of blood from the vessels which supply the tumour, or of exciting the activity of the absorbents; *2dly*, In the use of medicines supposed to have a specific effect on this disease; *3dly*, In the removal or diminution of the tumour by surgical operations.

1. Of the first class of remedies, one of the most powerful is the topical abstraction of blood by the frequent application of leeches. This mode of treatment has in many cases been found to lead to a material diminution of the tumour, and is particularly useful in those cases where the difficulty of breathing produced by the disease has been aggravated by exposure to cold. Blisters, though less powerful, have nearly a similar action, and, when fre-

quently repeated, have been attended with equally beneficial effects. Friction, a powerful agent in exciting the activity of the absorbents, has been found extremely useful in this disease, especially when aided by the application of stimulating substances, such as tincture of cantharides, camphorated mercurial ointment, solution of muriate of ammonia, &c. Electricity, and the application of mercurial and ammoniac plasters, have been also recommended.

2. Of specific remedies, a variety have at different times been recommended in this disease; of these, however, it will be found, that burnt sponge alone has maintained its reputation for any length of time. The virtues of this remedy were long supposed to reside in the alkali which it contained, and it is only within a few years, that the experiments of Dr Coindet upon the effects of iodine in the cure of Bronchocele, and the coeval discovery of the existence of that substance in the burnt sponge, have determined its active ingredient. And with whatever jealousy we may be inclined to regard the virtues of specific remedies in gene-

ral, the success which has attended the use of iodine in this disease, fully establish its claim to be reckoned among their number.

It is needless here to enumerate all the preparations of this medicine which have been employed, nor the mode in which they are prepared, I shall only notice those which are in most general use, and may be employed with the greatest safety. Internally, the alcoholic solution of iodine, and the watery solutions of hydriodate of potass or of soda are chiefly used; the former being a saturated solution, containing about one grain of iodine in ten of alcohol; the latter containing one-half drachm of either of the salts to an ounce of distilled water: each of them may be given in doses of ten drops twice or thrice a day, which may be gradually increased. The use of these medicines is generally attended with gradual diminution of the tumour, without any other sensible effect or disagreeable symptom, until the system becomes in a great measure saturated with the iodine. The disappearance of the tumour is greatly accelerated by rubbing upon it oint-

ments prepared from the same substances. These ointments may be also used alone, without the internal employment of the remedy, and this is considered the safest mode of administering it. They are prepared by adding a scruple of iodine, or of hydriodate of potass, to an ounce of lard.

In irritable constitutions, or where a large quantity of iodine has been taken, disagreeable and even dangerous effects are sometimes produced. These are, commonly, pain in the stomach and bowels with severe and obstinate vomiting, cramps in the limbs, and great depression of spirits; these symptoms are frequently followed by extreme emaciation. In particular constitutions the use of iodine is said to be followed by nervous affections, especially tremors, and irregular muscular action, somewhat resembling chorea.*

In administering the medicine, therefore, its effects must be carefully watched, and on the appearance of any of the symptoms above de-

* Gairdner on Iodine.

scribed, its dose must be diminished, or its use entirely given up. With these precautions, iodine promises to be one of the most valuable medicines that have been lately added to our *Materia Medica*, not only in the cure of Bronchocele, but of several other diseases.*

3. When medical means have been found of no avail in curing Bronchocele, the extirpation of the tumour has been attempted. The large size of the blood-vessels with which the thyroid gland is supplied, and which must be still farther increased in its diseased state, together with the importance of the parts situated near it, render this an extremely difficult and hazardous operation; accordingly we find that of those cases which have been recorded, several

* Although it may be proper to put the powers of this medicine to the test of experiment in diseases bearing any analogy to that of which we are now treating, yet we can scarcely expect to derive benefit from it in all the variety of disorders in which its success has been of late reported on the continent. The benefit derived from its use in scrofulous tumours of the lymphatic glands, I have had several opportunities of witnessing.

have proved fatal. It has, however, been shewn by Mr A. Burns, that in the early stage of the disease the tumour is contained in a capsule of fascia, to which it has but slight adhesions. In one case which Mr Burns dissected, he found no difficulty in insinuating his finger between the cyst and the gland, and detaching the one from the other; he "with the gentlest effort with the finger, separated the tumour all round, and, in succession, touched the four arteries, and brought into view the trachea and gullet." But as the disease advances, the capsule and its contents become incorporated, and projections shoot among the interstices of the muscles, vessels, and nerves, to which they become intimately attached, rendering the excision of the morbid parts next to impracticable.* Where there is reason, therefore, to suppose the disease to be of a carcinomatous or malignant nature, the early extirpation of the tumour, while it is small and free from adhesion to the important vessels

* Burn's Surgical Anatomy of the Head and Neck, p. 199.

and nerves, will afford the patient the only chance of safety.

But the necessity for performing extirpation in cases of common Bronchocele, will be much diminished by the facility with which the superior thyroid arteries may be tied. It was found by Mr Burns, in the case above-mentioned, that this artery lay quite superficially, and was much enlarged, even to the size of the carotid itself; and in those cases where this operation has been performed, its pulsation could be felt quite distinctly through the integuments. In cases, then, where urgent symptoms arise from the pressure of the tumour, and the position of the artery can be easily ascertained, we can have no hesitation in cutting down upon and passing a ligature around it. By this means we cut off a great part of the supply of blood from the tumour, and although it should again increase by the dilatation of its other arteries, we at least gain time for the action of those remedies which are most efficacious in removing the disease. The issue of the cases

in which this operation has been performed, evince its safety, and the justness of the principles upon which it has been proposed ; one only having proved fatal, and that from the occurrence of hospital gangrene.*

Another operation formerly in repute for this disease, has been of late revived by Dr Quadri of Naples, namely, the introduction of a seton through the substance of the tumour, in order to produce its destruction by suppuration. This practice he has found attended with success in a considerable number of cases, and may be performed without danger of injury to blood-vessels or nerves, if done with a trocar pointed needle, which may be carried deep into the gland, provided it be not brought near the cartilages of the larynx. If the irritation of the seton is not adequate to excite the necessary degree of inflammation, he has found this effect obtained by the introduction of a piece of the root of black hellebore.†

* Burns, p. 202. Medico-Chirurgical Transactions, vol. x. p. 312.

† Medico-Chirurgical Transactions, vol. x. p. 16.

Possessing, however, as we do, such power over the disease by the use of medicine, few cases can occur which call for the performance of a surgical operation, which is only advisable where the pressure of the tumour threatens the immediate destruction of life by suffocation, or impeded deglutition. In such a case, I should certainly prefer the operation of tying one or both of the superior thyroid arteries.

Before concluding, I beg leave to apologise for the absence of original matter in this essay. My limited experience in the medical profession can scarcely be expected to afford any thing calculated to interest or instruct those who are so much my superiors. My object will be sufficiently attained, if I have brought under one view the principal observations of others upon an obscure and interesting subject.

THE END.