CASES
OF
BRONCHOCELE OR GOITRE,
TREATED BY SETON,
WITH OBSERVATIONS,
BY A. COPLAND HUTCHISON, ESQ.

SURGEON EXTRAORDINARY TO HIS ROYAL HIGHNESS THE DUKE OF CLARENCE,
SURGEON TO THE WESTMINSTER GENERAL DISPENSARY,
MEDICAL SUPERINTENDENT OF THE PENITENTIARY
AT MILL-BANK, WESTMINSTER, AND LATE
SURGEON TO THE ROYAL NAVAL
HOSPITAL AT DEAL.

Read Nov. 14th, 1820.

IT will be admitted by every one experienced in the science of Surgery, that the preternatural enlargement of the thyroid gland is often attended with serious, and sometimes fatal consequences, exclusive of its deformity, by impeding deglutition and obstructing respiration. The rationale of the treatment heretofore pursued, has neither been satisfactory, founded on a just and scientific basis, nor generally successful ; and indeed the very office and utility of this gland in the animal economy are equally enveloped in obscurity.

When first I heard read in this Society Dr. Quadri's paper on the treatment of Bronchocele, which has since been published in the 10th Vol. of the Transactions, I was forcibly struck with the new mode of cure recommended by that gentleman for the removal of the disease in question, and resolved, on the first favorable opportunity, to submit its expediency to the test of actual experiment*.

On the 21st of September, 1819, Sarah Ellis, aged 53, a native of Ireland, then residing at No. 2, Marlborough-square, applied to me at the Dispensary with a Bronchocele, about the size of a large orange, of rather a firm and hard structure; the tumor extended more to the left than the right side of the neck, that lobe of the thyroid gland being most enlarged, and the disease occasioned pain and uneasiness in the left ear and the adjoining parts of the face, although respiration and deglutition continued free from obstruction or impediment.

Whilst in Dublin, thirteen years previously, she gave birth to a child, and some few days subsequent to that event, she was exposed to a cold wind, blowing directly on the neck and throat, which, to use her own expression, seemed to shoot through the parts. Immediately after this occur-

*The practice of passing a seton through the thyroid gland for the cure of Bronchocele, proposed by Dr. Quadri, is, however, not a new practice; for it was recommended by Foderé, and others, nearly half a-century ago.

rence, she was seized with fever, which lasted only a few days, and on her recovery from the febrile attack, she discovered, for the first time, the enlargement of the thyroid gland.

On the day she presented herself at the Dispensary I passed a long and narrow seton needle armed with half a skein of silk thread, obliquely through the substance of the gland, from the left lobe upwards, leaving a space of nearly two inches between the entrance and escape of the instrument. The superior and inferior thyroid arteries running deep in the gland, close to the trachea, their principal trunks were avoided by pushing the trachea backwards upon the œsophagus during the introduction of the needle, which, as already stated, passed through the body of the tumor, that is, half way between the external integuments and trachea. Notwithstanding the precautionary means adopted, a trifling hæmorrhage succeeded the operation, but not such as to occasion anxiety to any surgeon. A few days after this, a slight degree of erysipelatous inflammation supervened, which was followed by a profuse discharge of a thin acrid matter. As soon as the inflammatory action had subsided, the discharge was kept up by occasionally smearing the seton with sabine ointment, which supported the necessary stimulus to effect the object in view.

A considerable reduction of the tumor having taken place in the immediate neighbourhood of the

seton ; on the 5th of December, the silk was withdrawn, and a fresh portion introduced in an opposite direction, namely, from the lower part of the right lobe of the gland obliquely upwards, so as to cross the situation or course of the former. The management of the recently introduced seton was precisely similar to that employed in the first, and the discharge continued, with a gradual diminution of this part of the tumor also. During the severe and inclement weather experienced in the following month of February, the poor woman was attacked with fever, and on removing the dressings about that period, the seton was found to have wholly escaped ; but it was not deemed necessary to replace it, as the discharge and gradual reduction of the tumor continued to proceed most favorably.

A slight oozing of healthy pus, however, continued to exude from the apertures caused by the setons, for nearly a twelvemonth from the operation ; but no other inconvenience arose from that circumstance. The disease is now scarcely perceptible. The patient is perfectly well, and the skin which covered the tumor of its natural colour.

Upon the whole, the operation by seton, in cases of Bronchocele, is not, generally speaking, to be considered as dangerous when performed by a judicious surgeon, well acquainted with the anatomical structure of the parts ; but in delicate and

irritable habits and in the hard lobulated species of the disease, some circumspection is to be observed; and indeed in such constitutions, a cautious practitioner would well weigh the necessity of operating at all, unless where symptoms of suffocation and impeded deglutition became urgent.

There are two states of Bronchocele, however, which it is necessary to distinguish in the application of the seton as a curative remedy; namely, the firmly indurated and lobulated species of tumor, and the more yielding and soft. The first is found more intimately connected by adhesions to the trachea; and in this species it might be more prudent, perhaps, to push the seton needle through a smaller portion of the diseased gland, repeating the operation on other parts of it as circumstances shall afterwards render expedient; though a due degree of caution will probably guard against the danger of inflammatory action being communicated to the mucous membrane of the trachea. But in the softer and more yielding Bronchocele, the operator may boldly pass the instrument throughout the substance of the morbid mass, with the most perfect safety, I apprehend. In both cases, however, the inflammatory excitement, when deficient, must be maintained by the application of stimulating ointments to the cord, or of other more irritating substances, if necessary.

Independently of the danger of exciting inflam-

mation in the lining membrane of the trachea, the deformity remaining after the removal of the seton is considered a serious objection to the operation ; but if we place implicit confidence in Dr. Quadri's representation, this deformity usually disappears in a few months. 4th February, 1821.—Sarah Ellis was seen to-day by the author, and the state of her neck fully corroborates Dr. Q.'s assertion. When respiration and deglutition, however, are likely to be obstructed, all other considerations must yield to the impending danger, and the operation be had recourse to.

In this, as in many other surgical operations, success will depend much on the after-treatment ; especially should a high degree of erysipelatous inflammation supervene ; such as removing the seton altogether, the immediate application of leeches to the inflamed tumor, and a strict adherence to the sedative plan of treatment. But on the contrary should the excitement be found deficient, the means already pointed out must be pursued, without which a complete cure cannot be looked for.

The cure of Bronchocele by seton appears to me to be effected in two ways ; first, by the suppurative process induced, gradually breaking down the diseased organization ; and, secondly, by the stimulus and irritation communicated by the cord to the absorbent vessels of the part, and their action

thereby excited to carry off a portion of the morbid mass*.

To enumerate the various probable causes of this morbid affection as detailed by authors, and the no less various remedies recommended for its cure, both internal and external, would be worse than useless; it would be a loss of time. It appears to me, however, that our enquiries should be first directed to obtain a knowledge of the functions of the gland itself, before we can reasonably expect to arrive at the causes of the diseased structure. Having once attained this most important point, we shall the more readily be enabled to discover a safer and less painful remedy than the seton; with this view it would be extremely desirable that whenever the death of a patient labouring under Bronchocele should occur, the opportunity of a careful dissection and minute examination into the probable functions and utility of the thyroid gland, might not be

* I was last year informed by Mr. Nerman, a very intelligent medical student from Sweden, that it is a very common practice in Denmark, to make incisions into the substance of the diseased gland in Bronchocele, and that this operation frequently succeeds in curing the disease. Dr. Baillie has stated to me that the late Dr. William Hunter used to mention a case of this kind which was cured by an incision made into the diseased thyroid gland. Whether stimulating dressings were afterwards applied to the incised parts in these cases, I have not been able to ascertain; at all events, however, we have reason to assume that the cure by incision must be effected in the same manner as in that by seton.

omitted. Discoveries are sometimes made in diseased organs and monstrosities, by the enlargement of vessels, &c. otherwise so minute and obscure as to elude the most diligent search and detection. Dr. Barton, on the authority of Mr. Foderé, mentions a communication between the larynx and this gland, which was inflated by blowing air into the larynx properly secured by ligatures ; whether the inflation was produced through some communicating ducts, or that the air insinuated itself into the cellular substance of the part, does not clearly appear. See "a memoir concerning the disease goitre as it prevails in different parts of North America." By B. S. Barton, M.D.

In order that the Profession may judge of the propriety of this mode of treating Bronchocele, I shall subjoin notes of Mr. Gunning's case, of others by Mr. A. T. Thomson, of the Chelsea Dispensary, and of one by Mr. James, of the Devon and Exeter Hospital, with which these gentlemen have been so kind as to favor me. I embrace this opportunity, however, of stating, that it is my determination to continue the practice in all cases where the chance of success shall appear, to my judgment, commensurate with the risk to be incurred. The President of this Society, and several other Members of the Profession, have recently seen Sarah Ellis, to all of whom the favorable result of the operation was manifest.

I cannot conclude these short observations on Bronchocele, without strongly inculcating on the minds of professional gentlemen the utility of farther and more numerous trials of the seton in the disease under consideration ; for, with Fontana, "I know but one class of people who never err ; those who do nothing, observe nothing, and make no experiments."

I embrace the opportunity of adding a note to this communication, in order to notice a paper of Dr. Coindet, of Geneva, on the subject of the cure of Goitre by a solution or tincture of Iodine : this remedy, it appears, has been very successful in the practice of Dr. Coindet ; but for a detailed account of its utility in Bronchocele, and for the method of preparing it, I must refer to the original paper in the Bibliothèque Universelle for July 1820, or an abstract of the same in the Journal of Science, Literature and the Arts, No. XIX.

Dr. Straub, of Howfyl, has inserted in a German Journal, for February 1820, a memoir, giving an account of his having discovered Iodine in sponge and other marine bodies, which he considers to be the natural source of that principle ; and asserts that Iodine *might* be advantageously applied and used in all the diseases in which prepared or burnt sponge has been employed. His paper was translated into French, and inserted in the Bibliothèque

Universelle of Geneva for August 1820; but the probability is that Dr. Coindet knew nothing of this circumstance when his paper was published in July, or the circumstance would have been adverted to by the latter gentleman.

NOTES ON MR. GUNNING'S CASE.

Ann Smith, aged 48, was admitted into St. George's Hospital the 26th April 1820, labouring under bronchocele of eight or nine months duration. The disease was of a hard structure, the left lobe of the thyroid gland as large as a small orange, the right nearly twice that size; with great part of the lower surface of the tumor firmly attached to the sternum; and the disease, occasionally, had so much impeded respiration as to threaten *immediate suffocation*.

Since her admission, she has experienced one of those violent spasmodic affections of the muscles of respiration which threatened instant dissolution, but from which she was relieved by the application of leeches to the tumor.

The usual remedies had recourse to in such cases, not benefiting the patient, and as her life had, several times, been in imminent danger; it was determined in consultation by the surgeons of the hospital,

to give her the chance of relief, by the introduction of a seton. On the 6th of May, therefore, in the presence of his colleagues and myself, Mr. Gunning passed through the substance of the right lobe of the gland in an horizontal direction upwards, the same seton needle I had constructed and used in the case previously detailed, and which was armed with a skein of white silk.

No irritation or other untoward circumstance resulted from the operation, so that Mr. Gunning had, during many days, contemplated a repetition of the operation upon the other lobe of the gland.

May 10th. Some irritation and feeling of distress; the parts contiguous to the seton appear in a sloughing state.—*14th.* Seton withdrawn, leaving the right lobe of the gland considerably diminished.—*20th.* Experienced another attack of irritation in the trachea, with great anxiety and difficult respiration, so as to prevent her lying in the horizontal position. Very little external inflammation.—*30th.* Sloughs separated, and parts appear remarkably healthy. A few days after the last report her cough became very troublesome, and she continued to decline in strength very gradually until the 24th of June, when she died, after another severe attack of irritation as before described, being six weeks after the seton was withdrawn.

On examination, after death, the remaining sub-

stance of the thyroid gland was in a sloughing state, and there were some slight streaks of inflammation observable on the lining membrane of the trachea. The bronchiæ, and every other part of the body examined, were healthy.

From the little irritation excited by the seton in this case, from the sloughing and discharge never having been so considerable as to occasion alarm for the safety of the patient, and from her death occurring at so distant a period after the seton was withdrawn, and in one of those spasmodic attacks, which had several times previously threatened her life, I am authorized by Mr. Gunning, to state, that he has not conceived any unfavorable opinion of the operation by seton in this disease.

I cannot conclude the notes of this case without expressing my best thanks to Mr. Gunning, and to the other surgeons of St. George's Hospital, for the very liberal and polite attention I have experienced from them on this and some other occasions.

Spring Gardens, 28th Oct. 1820.

MR. THOMSON'S CASES.

91, *Sloane Street, 20th Sept. 1820.*

MY DEAR SIR,

I regret that no particular details of the cases of Bronchocele, which were

treated with the seton by me at the Chelsea and Brompton Dispensary, have been preserved; and, therefore, any thing I can communicate respecting them must be supplied entirely from memory.

The first case was that of a young woman of the name of Sarah Waller, twenty-two years of age, who came from the country, and applied at the Dispensary on the 23d of December 1815; in consequence of having seen one of her friends who had been cured of Bronchocele at the Dispensary. As far as I can recollect, the tumor, which was confined to the fore-part of the neck, was about the size of a man's fist, and projecting about one inch and a half forwards; the skin firm and somewhat elastic, and of the natural appearance. There was no pain in the tumor; nor was there any difficulty of respiration; but I remember the patient complained of an unpleasant sense of distension of the skin and pressure on the trachea being felt whenever she caught cold. The disease was at first treated with burnt sponge, the blue pill, and frictions; and this plan, with occasional blisters, was continued until the 3d of October 1816, when the patient wishing to go into the country, was discharged, with a recommendation to persevere in the use of the frictions, and to shew herself again to me on her return to town. The tumor, at this period, was certainly smaller than when she applied to be admitted a patient of the Dispensary; but the progress was not such as authorized an opi-

nion that it would be, ultimately, discussed by the means, which had hitherto been employed. About six months afterwards, she again put herself under my care; and as I had, in the interval, accidentally read in some periodical work, I think an American Medical Journal, of a case of Bronchocele having been cured by a seton, I resolved to hazard the attempt in this instance; and on the 8th of March 1817, passed a seton from above downwards obliquely through the body of the tumor. A considerable discharge of blood followed the withdrawing of the needle, and produced faintness in the patient; but, although the blood continued to ooze out for two or three days, yet no other inconvenience resulted. The tumor swelled considerably for several days, and produced some quickness of pulse, which was subdued by purges; but the seton gave little pain or uneasiness; and in ten days discharged, although not very freely, a thin matter, more like a mixture of lymph and pus than real purulent matter. The seton was withdrawn at the end of two months; and the tumor being then reduced to little more than a fourth of its natural size, the patient went back to the country, with a request to inform me if it again increased; which I conclude has not taken place, as I have not heard any thing from or respecting her since her departure from London.

A similar practice was resorted to in another case at the Dispensary in 1818; but, as the pa-

tient became irregular, and was lost sight of in a week after the seton was introduced, I shall not trouble you with it.

The third case was that of a veteran of the name of Godwin, aged sixty-one, who was at the time of his application at the Dispensary, the 22d of June 1820, a watchman; and is still, I believe, in that employment. The swelling was on the right side of the neck only, and extended upwards to the angle of the jaw. It was soft, and lobulated; the skin redder than natural; painful; and respiration in some degree impeded. The seton was introduced by an incision made with an abcess lancet a little below the angle of the jaw, and carried forward by means of a firm pointed silver probe, which met with little resistance; and was brought out at a counter opening made at the lower part of the tumor. A small quantity of something like pus followed the probe; but very little blood; and in three days a copious discharge was established. In three weeks the tumor was very greatly diminished in size; and as the man complained grievously of the pain the seton occasioned, it was then withdrawn, and the patient discharged in the following week, at his own desire; although there was still some weeping of matter from the lower orifice. The rapidity with which the tumor was reduced in this instance I ascribe to its soft character: and I am inclined to think that the seton was carried through betwixt the lobules of

which the gland is composed, rather than that it directly penetrated its substance. In both cases, however, the quantity of the discharge was scarcely sufficient to account for the effect produced ; which I am disposed to attribute more to the irritation excited and consequent absorption, than to any breaking down of the substance of the enlarged gland.

In closing this imperfect account, I think it necessary to say that, although the introduction of the seton was suggested to me by the incident I have mentioned, yet, that I would not have so readily embraced the hint, had not the recollection of the removal of the largest Bronchocele I had ever seen, by an empirical practice, tended to confirm my opinion of the efficacy which the seton was likely to produce, if it could be so introduced as to avoid wounding the larger arterial branches. This case I shall now take the liberty of briefly detailing to you.

Mrs. Todd, the wife of the steward of the late Marquis Townsend, had frequently applied to me on account of the difficulty of respiration, occasioned by a Bronchocele which occupied the whole of the anterior part of the neck, extending laterally to each ear, and resting pendulous upon the upper part of the thorax: the surface was spread with very large veins ; and it formed a tumor, at least as large as the head of an ordinary sized man. Af-

ter the death of the marquis, and of her husband, Mrs. Todd went to reside in Queen Street, near the Paddington Road ; and was there on the 22nd of June 1811, when I was summoned to attend her, at five o'clock in the morning. On my arrival I found her in bed, groaning, as if in the most excruciating torture ; with several females in the room, who informed me she was in the agonies of death. On enquiring the cause, I found she had been advised by a neighbour (a female) to apply a plaster composed chiefly of quicklime over the whole of the tumor; and that it had produced all the pain and inflammation I now witnessed. She had been delirious; and although the plaster had been taken off two hours before I saw her, she was then incapable of answering my questions. The examination of the tumor convinced me that her sufferings were equal to her expression of them. The inflammation extended downwards over the greater part of the thorax, involving the mammæ; and upwards over the whole of the head : whilst there was an evident slough forming equal to the entire extent of the tumor. After bleeding her largely, calomel and opium were prescribed, and poultices laid over the tumor, whilst the other inflamed parts were kept cool by means of an evaporating lotion.

In a few days a tremendous slough separated and gradually came away, laying bare the whole of the muscles of the neck. The discharge was awful, and I was in daily fear of seeing my patient

sink under its effects, notwithstanding the use of bark, sulphuric acid, wine, and opium. She, however, rallied; and on the 14th of October, five months after the application of the caustic, I took my leave of her; the sore being completely healed, and scarcely any vestige of the tumor remaining*.

Believe me, dear Sir,

Yours faithfully,

ANTHONY TODD THOMSON.

MR. JAMES' CASE.

Cathedral Yard, Exeter,

October 8th 1820.

SIR,

John Brown, aged 35, was admitted a patient of the Devon and Exeter Hospital in the latter part of the summer of the year 1819, under the care of Dr. Daniels, for bronchocele, and was treated by him, and by Dr. Blackall (during his absence from

* Mr. J. Baillie Fraser, in the narrative of his Travels in the Himālā Mountains, speaking of bronchocele, or goitre, which prevails very much in the valleys of that mountainous district, remarks: "We understood that it was sometimes cured, when early means were taken; and these are said to consist in extirpation of the part by the knife. We saw some persons who had the scars on their throat resulting from this mode of cure, which had in these instances been completely successful."

Journal of a Tour, through part of the snowy range of the Himālā Mountains, 4to. Lond. 1820, p. 349.

illness) according to those modes which have often been found beneficial; and having mentioned who were his attendants, no doubt can be entertained but that he had received every assistance which medical skill can give; nevertheless it was very obvious that the tumor increased, and from its increase his life was threatened; as the man, indeed, himself, believed, and was, consequently, exceedingly anxious that any plan should be adopted for his relief. Having recently seen Dr. Quadri's paper published in the tenth volume of the *Medico-Chirurgical Transactions*, I suggested to Dr. Blackall, who then took care of him, the propriety of trying the plan Dr. Quadri recommends; and as he fully concurred, and the man willingly consented, I proceeded to perform the operation on the 18th of December: my colleagues Mr. Barnes and Mr. Harris being present.

The tumor was of the size of a large flattened orange, firm and elastic; it extended to the sternum, and was overlapped on either side by the edges of the sterno-mastoidei muscles, and was so firmly bound down either by them or by fascia, as to cause very considerable and manifest pressure on the trachea. It extended nearly equally on both sides.

A Trocar needle* armed with silk was passed obliquely through the tumor from above down-

* The common needle used for passing setons in Hydrocele.

wards, and from left to right as nearly through its centre as I could direct it: some glairy fluid escaped, most probably from a cyst, and he experienced immediate relief from the consequent diminution in the bulk of the swelling, which was about one third, and he breathed freely and easily.

On the following day the obstruction was again manifest, and his face was flushed, I directed him to be bled and purged; his pulse was frequent and soft.

On the subsequent days there was increased difficulty of breathing, very harrassing cough, his voice became suppressed as in laryngitis; copious expectoration came on; his countenance became haggard; pulse very frequent, small and weak. Under these circumstances I withdrew the seton, on or about the 28th of December.

These symptoms abated only in a slight degree after the seton was removed; and there seemed much reason to fear that mortification had taken place in the trachea and bronchiæ, and would prove destructive; at this time he expectorated some quantity of transparent and firm lymph, bearing more the appearance of calves'-foot jelly than any thing else, and shortly afterwards layers bearing the appearance of adventitious membrane; and at the same time a similar substance could be drawn out of the orifices made by the seton, which had ulce-

rated. During this time there was puriform mucus expectorated, and a great degree of orthopnoea : nevertheless, at the expiration of a month from the time of the operation, these symptoms had much diminished, and the tumor had lessened very considerably. On the 29th of January, the irritation of the trachea, the cough, and the constitutional disturbance had disappeared, and on February 6th, the tumor had also entirely disappeared, leaving no other traces of its existence than the scars of the seton needle employed for its cure. He regained a state of perfect health, and many months afterwards this continued, when he went to London, and I took that opportunity of desiring him to show himself to Mr. Abernethy, by which means his case became known to you.

The duration of the disease, before he was admitted to our Hospital, was two years.

The following remarks may be made :

1st. From the increase of the tumor, and the increasing difficulty in respiration prior to the operation, the case would, in all probability, have soon terminated fatally by suffocation, which was also the patient's own conviction.

2dly. None of the ordinary means were capable of relieving him.

3dly. He owed his cure to this operation.

With regard to the symptoms which occurred in the trachea, they seem difficult of explanation. It may be conjectured that the needle had traversed the trachea; but then there would have been immediate obstruction from the presence of the silk; there would have been irritation at once, as in those cases where a canula has been introduced in the operation of Bronchotomy, and more speedily increasing from the nature of the substance—silk; there would also have been some expectoration of blood in all probability: nay more, had this been the case, there would have been a communication between the trachea and the external wounds. But after the seton had been withdrawn, at the time the adventitious membrane presented itself at the wounds, and was also expectorated, the flame of a candle placed before these wounds was not in the least affected when he closed his nostrils and mouth, and endeavoured to expel the air from his lungs with full force. This was repeatedly tried, and with the same result. From considering these circumstances, and from not having the least reason to suppose from any one cause at the time of the operation that the trachea was wounded, I must believe that it was not, and that the inflammation which did occur, was communicated from the tumor to it: and it is material to remember that considerable cough and affection of this passage had existed previously to it.

As I expected to find the tumor subside under the discharge produced by the seton, I was desi-

rous to keep it in, and did so, until the urgency of the symptoms compelled me to withdraw it.

The feebleness and frequency of the pulse became so great, that I feared to have recourse to very active measures to reduce inflammation under the circumstances; for as long as the cause subsisted, no means employed would remove it. I encouraged the suppuration from the part by fomentations and poultices; and in proportion as the local disease got well, the general affection of the mucus membrane of the lungs subsided.

Upon the whole I should conclude, on comparing this with Dr. Quadri's cases, that the operation was more urgently called for than in them; that it was attended with more formidable symptoms, and that its success was more remarkable and complete.

Your most obedient,

humble servant,

J. H. JAMES.