CASE OF STAMMERING,

IN WHICH PROFESSOR DIEFFENBACH'S OPERATION WAS PERFORMED.

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April 1, 1841.—THOMAS YOUNG, ætat. 21, a labourer at a forge, applied at the Metropolitan Free Hospital four weeks ago, for the purpose of being relieved of stutter. This patient is a tall, stout young man, of a fair complexion, light eyes, and an agreeable expression of countenance: he is intelligent, and is anxious to undergo any operation that would afford a hope of his being cured, or alleviated of his inability to articulate.

He has suffered under the infirmity for which he applies for relief since he can remember.

When he attempts to pronounce any word, he protrudes his tongue, for the distance of at least an inch, between his teeth and lips, withdrawing it again; and these movements he is compelled to perform several times, before he can express the word he desires.

Whether the word commences with a labial or palatine letter, it is the same. His lips are large, and the lower one is rather pendulous; and these, together with the *alæ nasi*, are spasmodically affected when his difficulty to pronounce words is at its severest height.

The presence of strangers does not appear to influence his inability to articulate, and he can sing what he desires to express with comparative fluency; but his capability to express his ideas by singing is very inefficient, when compared to the power other stutters have of accomplishing their object in this way.

This man's palate presents no deviation from its natural state; it is neither too arched, too low, nor too narrow; his teeth and alveoli also are perfect. His tonsils are healthy and well developed, neither advancing more than they should do from between the palatine pillars, when the isthmus faucium is contracted; nor receding during its relaxation beyond their natural limits. His uvula appears more elongated than it should be, and touches the dorsum of the tongue, unless that organ be firmly compressed downwards, which is very difficult to accomplish, so that it is more probable the tongue approaches the uvula, than that the uvula descends to it. His tongue is unusually developed, corresponding in this respect to his lips, but in other respects it is well formed, and perfectly symmetrical.

He complains of no pain about the thorax, as other stutters experience, nor of any sense of suffocation to warrant the opinion that the muscles of the glottis are engaged in his infirmity.

Before attempting the apparently formidable operation of removing a portion of this patient's tongue according to the suggestion and practice of Professor Dieffenbach,* I determined to give him the chances of any benefit which milder and less sanguinary operations offered; and without being prejudiced in favour of one operation above another, I was led to adopt that which I have already employed with great benefit to numerous

patients, and in some even to cure, from the following experiment made in this case.

I placed the index and middle fingers of my right hand on either side of the patient's tongue, and contrived by such means that the apex of the organ should strike firmly and steadily against the upper alveolar arch; and on desiring him to repeat words requiring such a position of the organ to pronounce, his ability to do so was perceptibly improved.

I divided completely the anterior free borders of the *genio-hyo-glossi* muscles, and excised a triangular portion of both, and placing my little finger in the wound beneath the tongue, I felt for any structures that became tense when the tip of the tongue was elevated, and divided these also, having first passed a curved director beneath them. At the end of a few days the part had healed, and the patient did not experience the slightest benefit from this operation.

It being urged upon me by one or two professional friends who saw the patient some time after the operation of dividing the *frenum linguæ* and the *genio-hyo-glossi* muscles, that the uvula might be more or less engaged, I snipped it off at its base. This proceeding was not followed either directly or remotely by any change in his pronunciation.

In the presence of several members of my profession, and with the kind assistance of my colleagues, Mr. Eland and Mr. Chance, and also of Mr. Avery, I removed a portion of the tongue from the posterior part of the organ.

To the prompt attention of Mr. Weiss I was indebted for the construction of three needles, which repeated operations on the dead subject suggested to me to have made.

These instruments were deeply curved, the curve being continuous with a straight stalk, an inch and a half long, which was received into an ordinary shaped handle.

Two lines distant from its point, the eye of the needle was formed, and was of sufficient size to receive a large ligature.

From the point of the needle to the angle formed at its junction with the stalk, the distance was an inch and a half, and the depth of the curve of the needle was an inch; so that when the instrument was introduced fairly into the tongue, there was included between its point and angle nearly an inch and a half of its dorsum, and within the curve of the needle a portion comprehending its entire thickness. The patient was seated in the manner best calculated to allow the light to enter his mouth, and his head was supported by an assistant. I seized the apex of the tongue with the thumb and fore-finger of my left hand, a napkin intervening, and drew it to the fullest extent out of the mouth, but without giving any great degree of uneasiness to the patient.

I next introduced one of the needles, entering its point a little behind the anterior half of the tongue, and exactly in the mesial line of the organ, and continued to direct it as much as possible downwards, until the little resistance offered by the less compact structures beneath the true substance of the tongue, and the length of the portion of the needle introduced, showed me that I had completely penetrated it. I next depressed the handle of the needle, and at the same time urged the instrument towards the base of the tongue,

* Vide *PROVINCIAL MEDICAL AND SURGICAL JOURNAL*, Vol. I. No. 25; also Professor Dieffenbach's memoir, translated by Mr. Joseph Travers.

until its point appeared more than an inch behind the orifice of entrance.

Before this needle was introduced, it was armed with a ligature, and the next proceeding was to seize the ligature by a forceps, and to draw it through the track of the wound, so as to leave it in the eye of the needle, ready to be immediately drawn through the divided edges of the tongue, after the desired portion was removed. This proceeding, however, was attended with more trouble than was anticipated, for there was great difficulty in seizing the ligature at the eye of the needle, in consequence of its being tense; and even when this was accomplished, as much difficulty was experienced in drawing it through the wound, from its adhesion to the tongue, and from having to pull it from behind forwards. After some three or four minutes, the ligature was arranged as intended, viz. in the eye of the needle, with an end lying in either angle of the mouth. This much being accomplished, Mr. Eland kept the tongue steady and protruded from the mouth by means of the needle already introduced; and both my hands being now at liberty, I seized alternately the left and the right halves of the tongue between the finger and thumb of my left hand, and introduced the other needles in the same manner as the first.

From the difficulty I experienced in withdrawing the ligature in the first instance, I introduced the second and third needles unarmed, and from being unprepared with ligatures fitted to enter their eyes at such a distance from the orifice of the mouth, several minutes were lost in effecting this otherwise simple proceeding. Having now included between the three needles, not only the portion of the tongue I intended to remove, but also those portions of the organ which were to retain the ligatures until adhesion between its cut edges was accomplished, and having completely penetrated the true substance of the tongue, and also part of the less denser tissues beneath it, I removed by two incisions a wedge-shaped portion of the organ. Both these incisions were made from above downwards, and completely penetrated the dense substance of the tongue. The first incision was the posterior one, which I made vertically, and about half an inch from the points of the needles; the second incision I commenced half an inch anterior to the first, and directed the knife obliquely downwards and backwards. The base of the portion removed corresponded to the dorsum of the tongue, its sides passed completely through the substance of the organ, and its apex involved the looser textures beneath.

My colleague, Mr. Chance, made an etching of the portion of the tongue immediately after its removal, and has furnished me with the accompanying outline of its dimensions.

Fig. 1.

Fig. 2.

From the time the first incision was made, to the removal of the portion of the tongue, the hæmorrhage was very considerable; but from the facility with which the needles were withdrawn, and the ligatures made to occupy the very depth of the wound, and from the rapidity with which the divided edges of the tongue were brought together, and the ligatures tied, the entire quantity of blood lost did not amount to more than between two and three ounces. I had to introduce a fourth ligature, not on account of any hæmorrhage, but in consequence of the wound gaping at the right side of the tongue.

Notwithstanding that delays, incidental to an original proceeding of this kind, were to be expected, the entire time from the commencement of the operation to its termination occupied twenty minutes; and for this information, deemed by some surgeons so essential to their perfection as operators, I am indebted to a gentleman, whose position during its performance prevented his seeing any of its steps, and who measured its excellence by his timepiece.

The following drawing is an exact representation of the shape and size of the needles I employed.

With three or four of these instruments, the removal of the required portion of the tongue can be accomplished with rapidity, and above all with perfect security to the patient from excessive hæmorrhage or any other serious consequence. By simply introducing each needle unarmed, and by having each ligature ready stiffened at its point, so as to enable the operator to pass it through the eye of the needle readily, five minutes should not be expended in completing the operation. The only difference between the familiar operation for hare-lip, performed by the merest tyro in surgical manipulations, and this new operation on the tongue is, that the former offers difficulties, from the awkward position of the organ, to excise it, and bring its edges together by ligatures, which the latter does not.

In both operations large and important arterial trunks are divided; the hæmorrhage in each is consequently severe, and the means by which we arrest hæmorrhage in each is precisely the same; we control the bleeding from the divided vessels, by bringing the edges of the tissues in which the vessels are into close approximation; in hare-lip by needles and the figure of eight suture, in the tongue by ligatures alone.

When the portion of tongue was removed, I withdrew the centre needle, leaving the double ligature in the wound; and whilst Mr. Avery steadied the tongue and prevented the gaping of the divided edges by means of the lateral needles, I easily tied the ligature. The lateral needles were then removed and the ligatures tied in the same manner, after which all hæmorrhage ceased.

In tying the ligatures, the edges of the wound were compressed more firmly than in other situations it would be deemed necessary to do, as upon this alone depended our means of preventing hæmorrhage.

Before the operation, the patient had his bowels freely moved by aperient medicine; when it was complete he was removed to bed, enjoined to observe perfect silence and rest, and was furnished with warm lemonade to moisten his mouth as often as he desired.

The patient possessed great fortitude, and all through the steps of the operation evinced the utmost nerve and steadiness.

I cannot close the account of the operative part of this case, without again expressing my feelings for the assistance I received at the hands of my colleagues and of Mr. Avery.

Evening, 8 o'clock. The patient is calm and quiet, the dorsum of his tongue and the upper part of his palate are covered with thin coagula of blood; he complains of difficulty of swallowing, which is not occasioned by any impediment from swallowing at the isthmus faucium, but from the pain he experiences when he endeavours to move his tongue. The mucus and saliva in consequence flow from the anterior opening of the mouth, and these secretions, as might be expected, are in larger quantity than natural. His pulse is 78, he is free from excitement, and does not complain of thirst. On examining the tongue, the ligatures can scarcely be perceived, on account of the position of the wound towards its root. Ordered cold tea.

April 2, two P.M. Twenty-four hours after the operation. Slept well last night, skin cool, pulse 76 and natural; complains of much difficulty in swallowing. The secretion of mucus into the mouth is very great, and is so viscid that he is obliged to remove it frequently with a handkerchief. There has been no hæmorrhage; the edges of the wound are in apposition; the tongue is not swollen, and is of its natural temperature.

Bowels have not been moved; one ounce of castor oil at once.

He was not questioned, and was desired to express his wants by signs.

3. Mr. Streeter and Mr. Chance saw the patient with me this day at half-past 4 P.M. His tongue is swollen at the wound. He could not swallow the castor oil ordered him yesterday; pulse 90 and full; slept very restlessly last night. Hab. enema cathart. statim.

4. Pulse 80, has lost its fulness; skin cool and

moist. Enema operated freely; tongue less swollen, can swallow; took a good sized cup of gruel. When asked if he slept well, said, "No, sir," without stammering; secretion of mucus is less, but it is still very viscid: complains of a little cough from irritation.

5. Edges of wound of tongue in close apposition and united; sutures not loosening. Swelling of tongue subsiding; can swallow freely; pulse 70. Dorsum of tongue is covered with thick sordes and mucus. He has not free motion of the tongue.

When he endeavours to speak, the spasm of the lips is still present, but in a very slight degree. He pronounced a few words, requiring the movement of the tongue, without stammering, but it is obviously impossible to judge of the effects of the operation as yet.

6. Removed ligatures. No hæmorrhage; pulse natural; can swallow well. The dorsum of the tongue is covered with thick sordes, which is readily removed with a spatula. The edges of the incision of the tongue are in perfect contact, and the ligatures have left deep indentations where they were applied; between these the tongue is slightly swollen.

7. Walking about the house: tongue cleaning rapidly. He speaks much more fluently, but still he has a slight hesitation; spasms of lips and nares are not present.

20. In the presence of Mr. Avery, Mr. Chance, and Mr. Grey, the patient's ability to articulate was tested by noticing the time he took to pronounce certain words, sentences, &c. The following are the results:—

"Thomas Young;" one and a half seconds. "No, sir;" instantly. "Number 18, Hull's Place, John's Row, St. Luke's;" seven seconds and five seconds. "Total;" instantly. "Warm water;" instantly. "Every man;" hesitates at man for a second. "I have not seen Mr. Lucas since Wednesday;" four seconds—same sentence, fifteen seconds; this difference arose from his inability to pronounce the letter "s" in "seen," and he repeated "I have not," three times before finishing the sentence.

We gave him a magazine, and he read out of it the following paragraph twice. The first time it took him sixty-five seconds to do so, the second time forty-five seconds.

"It was, however, ready by the time, and reflected the greatest credit on Edwin's talents, and was moreover sold, on the second day's exhibition, for a very considerable sum. But there was the portrait of a young lady, hung just under it, which attracted general attention, and the intimation of 'not for sale' affixed to it, awakened even a stronger degree of admiration."

He now speaks with some hesitation, particularly at commencing, and all through with a thickness of speech.

25. Continues as at last report. Dr. Burgess tested his ability to speak in words and sentences of various kinds.

May 2. He is greatly benefited by the operation, but not cured. He can make himself readily understood at all times, but his hesitation is at one time worse than at another. He said that yesterday evening he found great difficulty in saying "ten shillings;" to-day he says it readily. He evinces no appearances of spasm of the lips or nares, and says that he has had none since the operation.

I have endeavoured, to the best of my ability, to lay before the members of my profession, in the account of this case, a true and faithful statement of facts; neither magnifying difficulties, colouring symptoms, nor concealing that which should be made known.

From the time the operation was performed, to the date of the last report, several professional friends have seen this patient; and whenever I had an opportunity, I took the report of his condition at the time from those present, rather than from my own view of his state.

None but those who saw Thomas Young before the operation was performed, can judge of the great amount of benefit he has received. Before the operation he was incapable of even saying yes or no, and so bad was he in this respect, that my colleague, Dr. Lilburne, desired him to express one or the other by pointing his finger upwards or downwards. He can now make himself perfectly understood when he speaks slowly and deliberately; before he could not do so. It is to be hoped that this condition will continue.

This operation was performed on April 1, 1841, at the Metropolitan Free Hospital, Carey-street, and by a gift of foresight which falls to the lot of few, was announced, several days previous to its performance, by the editor of the *Medico-Chirurgical Review*.

CASES

OF AN

ACCIDENTAL PASSAGE OF A FEMALE CATHETER INTO THE BLADDER.

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CASE I.—During the last year I was requested by a medical friend to meet him in consultation on a case, where he had permitted a silver catheter to slip into a lady's bladder. The patient had had, a few weeks previously, a severe labour, producing paralysis of the bladder, and rendering the introduction of the catheter necessary night and morning. A few hours before my visit, her medical attendant, in attempting to draw off the water, experienced some difficulty, and whilst making more pressure than usual, the catheter slipped into the bladder. He immediately attempted to reach it with his dressing forceps, but failed. I advised him to wait until it became necessary to draw off the water again, then pass a longer catheter, and endeavour to discover its position; but it could not, however, be detected, and the operation was repeated several times before it was felt. The following plan was then tried:—

A piece of sponge tent, somewhat longer than a common female catheter, and of the size of the little finger, was passed into the bladder, without difficulty or without giving pain, and allowed to remain eight or ten hours, during which time the water passed freely through it. At the end of that period it was removed, and the forefinger of the left hand passed readily into the bladder. The catheter was felt lying across, one end resting on the pubes, and the other embedded in the folds at the back part of the bladder. There was considerable difficulty in bringing it into the urethra,

which was effected by carrying the forefinger of the right hand into the vagina, and pressing the bladder backwards and upwards, which brought that part of the instrument lying over the pubes within reach of the other finger, and then into the urethra, from whence it was readily removed by the dressing forceps. All this was effected with very little pain, and without the patient or her friends even being aware of what had happened. The instrument, which was one of the sliding short catheters recommended by Mr. Jewel, remained in the bladder fifteen days, producing but very slight irritation.

This is, I believe, a very rare accident; and, on looking at the catheters which are generally in use, one only feels surprised that it does not happen more frequently, as there is not sufficient guard to prevent it. Mr. Abernethy used to relate in his lectures a case of this kind, where the catheter was not extracted; and a long time afterwards an abscess formed in the side, which was opened and discharged freely for some days, when, on passing a probe, a hard substance was felt, and extracted with a pair of common forceps, which proved to be a catheter.

Sir A. Cooper lately obligingly showed me a drawing of a calculus formed over a catheter which had got into the bladder, and which he removed by the usual operation some years since at Guy's Hospital. To this gentleman I am indebted for suggesting the plan which proved so successful in this case.

I observed, in this case, that the whole internal lining of the vagina was in a sloughing state, which I think very frequently occurs after laborious parturition, where the head rests for many hours in the vagina, although I do not remember to have seen it noticed; much of the soreness and pain which women complain of after such labours arises, in my opinion, from this cause, and would, probably, lead to adhesions, if nurses did not use the precaution of smearing the parts frequently with ointment.

CASE II.—Elizabeth Creed, married about four months, had retention of urine, and was relieved several times by the catheter, when, in passing it one day, it unfortunately slipped from the surgeon's fingers into the bladder. No attempt was made to extract it, and about a fortnight afterwards she was brought a distance of thirty miles to the Bridgewater Infirmary. Having ascertained the presence of the instrument, I introduced a piece of sponge tent into the bladder in the evening, and allowed it to remain during the night. On the following morning I withdrew the sponge, and passed my finger with some difficulty into the bladder, and felt the catheter resting on the pubes, from whence it was brought into the urethra with a pair of dressing forceps, and readily extracted. In this case the instrument remained in the bladder seventeen days, and produced considerable irritation. There was much greater difficulty in dilating the urethra in this than in the former case, which occurred after delivery; in the latter, the urine passed involuntarily until the fourth day, but in the former the urethra regained its power immediately after the removal of the catheter. Two such cases having been brought to my notice within a few months, it would appear that this accident is not of such rare occurrence as is generally imagined. It may frequently happen, with