Clinical Remarks

ON

EXCISION OF THE CONDYLE OF THE LOWER JAW FOR THE RELIEF OF MECHANICAL TRISMUS.

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GENTLEMEN,—In 1878 I read a paper before the Association of Surgeons practising Dental Surgery on the subject of excision of the condyle of the lower jaw for trismus. I have now operated on three cases; so will relate briefly the three histories, and then point out why this operation has been performed, and with what results.

CASE 1.—Sarah C—, aged fifty, married, was admitted into Westminster Hospital on Oct. 23rd, 1878, suffering from inability to open her lower jaw by reason of fixity of the temporo-maxillary joint on the left side. In June, 1877, she was much exposed to cold, and for toothache had her left first molar extracted. In August an abscess formed, causing great deformity of her left cheek. In September the abscess burst into her mouth of its own accord, and nearly half a pint of fetid pus was discharged. The abscess cavity slowly healed, but she noticed an increasing difficulty in opening her mouth wide, some thickness of speech, and an occasional spasm of the left angle of the mouth. The trismus has steadily got worse. The patient has been married for twelve years without having been pregnant. She has been treated in St. Thomas's Hospital by a 2 lb. sandbag hung on to her lower jaw, but without any good result. On admission her speech was thick, and she could only pass a pin between her front teeth. The left temporo-maxillary joint was partially fixed; the right was more free. There was no facial deformity, no buccal scar, and no paralysis, but an occasional twitch of the left angle of the mouth. Sensibility was perfect; and she could forcibly contract both masseteric groups of muscles. She ate in a most inconvenient manner, being unable to masticate her food; she was compelled to push small morsels over the molar gums and then swallow them. There was no marked loss of flesh. No clear history of syphilis was given, but she has a small round tubercle by the parting of the frontal hair, and a diffused lump above the left olecranon. The diagnosis was fixity of the left temporo-maxillary joint by reason of condensed tissue around the pterygo-maxillary structures (left), and her twitch was explained by reflex action on the buccal branches of the fifth nerve. On Oct. 28th, 1878, having placed her under the influence of chloroform, by means of a screw and lever I failed to produce any increased motion of her lower jaw laterally or longitudinally. I therefore, on Nov. 5th, excised the left condyle of the lower jaw by an inch cut at right angles to the axis of its neck, nipped the neck across, and removed the condyle with the aid of a pointed lion forceps. Thus the inter-articular fibro-cartilage was left, and no injury done to the internal maxillary artery. There was trifling hæmorrhage; three of my fingers could be admitted simultaneously into the mouth, and she could protrude her tongue between her teeth on awakening. A small sponge was inserted into the wound; this was removed on the following day, and one silver stitch was applied as a compressing agent. She takes sop, and is much pleased at her regained power of eating with comfort. On Nov. 20th the wound had healed; she could speak plainly, and had masticated a quarter of a pound of mutton, after abstaining from solid flesh for eighteen months. On Dec. 8th she was busily assisting her fellow-patients to clear away the breakfast things, when suddenly blood flowed from her mouth and she dropped down dead. The post-mortem showed a large aortic and unsuspected aneurysm of the aorta, which had burst into the œsophagus. I have the skull and lower jaw on the table; and by the side of the lower jaw the condyle and neck removed by the operation I have described.

CASE 2.—Jane J—, aged nine, was admitted into Percy ward on Feb. 4th, 1879, for mechanical trismus, arising from No. 3290.

asymmetrical development of the facial bones following scarlet fever. I removed the left condyle of her jaw on February 18th, with the immediate result of being able to open her mouth and insert my fingers. She continued to make good progress, the scar dwindling down to a slight straight line; and she was discharged from hospital on April 16th. She is growing up an interesting, though somewhat timid girl, with marked improvement in her power of speech and increasing facility of mastication.

CASE 3.—H. P—, aged forty-seven, clerk, was admitted into Mark Ward on May 9th, 1885, the subject of left trismus. About 1880 he suffered from toothache on the left side, and his teeth have never been very good. There was no history of syphilis. Fourteen months before admission his lower jaw became fixed; he could open his mouth wide enough to admit a silver fork, but no food on it. He applied for relief at Guy's Hospital and remained in for two months, but did not improve. He was recommended to come to Westminster Hospital by his employers. On admission his case was clearly one of unilateral trismus, and seemed to depend on some fixity below the zygoma and around the anterior aspect of the coronoid process of the lower jaw. Physical examination of the mouth was impossible. His breath was fetid, teeth numerous, and speech thick. He had lost flesh. As he had submitted to a most varied surgical discipline without any good result, I proposed excision of the condyle of the jaw on the left side. He readily consented, and as a preparatory measure I had his face shaved. Great was his surprise (for he had not been

shaven for sixteen years) to find immediately beneath his left malar bone a deep depressed cicatrix, of which previously he had no cognisance. On May 12th the operation was performed in the usual manner, and the condyle and part of the neck removed, also the attachment of the pterygoideus externus muscle. No difficulty was experienced, and there was no bleeding. The immediate result was that the mouth could be opened, and three fingers inserted. He was ordered as a gargle four drachms of chlorate of potash and three drachms of compound tincture of lavender, in a pint of water; and as a tonic, twenty minims of tincture of perchloride of iron, in water, three times a day. The man made an uninterrupted recovery, and left the hospital on May 30th, well able to eat and speak. The cicatrix is now being hidden by regrowth of his whiskers. On July 31st the patient was able to report good progress, the interval between the teeth being at the widest point three-quarters of an inch. On August 17th, 1886, I carefully examined him. When he opened his mouth there was found to be three-quarters of an inch between the incisors. He was free from annoyance. There was no fetor of breath, and no thickness of speech. The cicatrix was completely hidden by whiskers, and so also was the submalar one, about which we know nothing. He was able to eat half a pound of mutton for dinner, was gaining flesh, and had his old sense of well-being.

Why the operation has been performed.—A very few words will explain how miserable is the condition of a patient unable to eat or speak with comfort; how troublesome it is

to suffer from oral and dental fetor; how alarming to watch the gradual loss of flesh and healthful vivacity. Patients will direct the surgeon as to which of the two hinges of the jaw is at fault, and in all cases make a careful and minute examination of the facial skin and buccal mucous membrane. By the aid of this diagram (see engraving, *ante*) you will notice the line marking the spot for the excision of the condyle and neck of the jaw, and also the three succeeding lines showing the varying conditions of jaw leverage. In each instance, for the act of opening the jaw, let *c* be the fulcrum, *p* the power, and *q* the weight. No. 1, the position of power and weight in any normal jaw. No. 2 (lever of the second order), the position of two fulcra in these conditions of unilateral trismus. No. 3, the position of power and weight, after the operation of removal of the condyle; or, in other language, the conversion of a normal mechanism of the jaw (lever of the second order) into that of an operated case (lever of the first order). Compare Nos. 1 and 3. And now look at No 2, which, in my opinion, explains the secret of many of these unilateral trismus cases, and also at this rough model I have cut out of wood, showing the condyle of the jaw, the mouth, and the temporo-malar coronoid structures. From dental irritation, or an old abscess, or other accident, a local definite adhesion results between the coronoid process and zygomatic fossa; or between or around the plane of the pterygo-maxillary ligament, fixing the lower to the upper jaw at any point between the teeth anteriorly and the temporo-maxillary joint posteriorly. It is obvious that any attempt to depress the symphysis is negated by the new material (disease) acting as a fulcrum (instead of a movable mass); and as the condyle naturally is the fulcrum, there are two fulcra, and until one is knocked away (the condyle) no opening of the mouth can take place.

With what results this operation has been attended.—Professor Humphry's case (in 1855) of excision of the right condyle of the lower jaw for chronic rheumatic arthritis was successful; and in a letter sent to me in November, 1878, the Professor says: "The patient was well and able to masticate comfortably some years afterwards; the operation answered the purpose well." My three cases have also mechanically succeeded. Two are alive and well; the first died of syphilitic aneurysm of the aorta immediately after enjoying a good breakfast. I show you also to-day a specimen of chronic rheumatic arthritis of the temporo-maxillary joint (left side). This specimen came from our class subject in operative surgery (session 1884); for accidentally one of my pupils, in operating for the excision of the condyle of the inferior maxilla (an operation then taught by me as a recognised operation) came across genuine disease, and secured this not common preparation. We have on the table specimens of Case 1, superior and inferior maxillæ, condyle, and resultant cicatrix; Case 2, left condyle removed; Case 3, left condyle removed; operative specimen of arthritis of the temporo-maxillary joint. Strangely enough, all my preparations are left side specimens.

One word on the *method of operating*. Take the tragus of the ear as your guide, and make a horizontal incision (not more than an inch) across and down to the neck of the jaw, so as to allow cutting strong forceps to embrace the neck; divide the neck and evulse the condyle. This act of turning out the head of the bone may be done by the bone nippers or pointed strong bone forceps. I am tempted, while on this point of turning out heads of bone, to draw your attention to a valuable plan of impacting a strong steel lever into the cylindrical substance of the bone itself; this impaction not only gives a useful leverage in turning out small pieces of bone in cramped corners, but also allows the free play of the knife around and close to the bone, without the blades of any bone forceps coming in the way of sight or blunting the edge of the knife on the blades of the forceps. The leaving of the inter-articular fibro-cartilage prevents any future bony union occurring. Coupling, then, these three cases of my own with Professor Humphry's case, I am inclined to recommend the operation of excision of the condyle of the jaw for mechanical trismus. Instead of misery and inanition, by recourse to an easy and not dangerous operation the surgeon restores freedom of speech and reopens the gateway of alimentation; no large scar results, and in adult males this scar is hidden by hair. This operation affords another example of the warrantable sacrifice of perfectly healthy parts in one locality so as to effect the well-being and happiness of the whole body.

THE PATHOLOGY OF PUERPERAL ALBUMINURIA.¹

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THE cases of puerperal albuminuria complicated with retinitis are of great importance, as presenting a feature which links the affection, in one of its forms, more closely to albuminuria the result of organic kidney mischief; and I should be glad if the ophthalmologists could tell us whether the occurrence of retinitis in puerperal cases has any influence on the prognosis of the albuminuria. The common form of puerperal albuminuria is characterised by the fact that in the later stages of pregnancy a large quantity of albumen appears in the urine, which, after delivery, disappears in a marvellously short space of time, and the patient then resumes her usual health. Such is a common course. But sometimes the termination is more serious: uræmia in its various forms may appear during the pregnancy and labour, or after delivery the albumen may still continue to appear in the urine, and the case may lapse into one of chronic Bright's disease. It is evident, then, that in the more serious form we have to do with an organic kidney lesion. This lesion was for long considered to be a venous hyperæmia from pressure; but, as a matter of fact, this has seldom been found, and, moreover, the urine of these cases is not in all respects the same as that met with in venous hyperæmia. A lesion more commonly found is the very opposite to this—that is, anæmia of the kidney with fatty degeneration, believed to be due to reflex spasm of the renal arteries, although obviously for this view there is no sufficient basis. But knowing that such a lesion is found, let us consider the more favourable cases, and inquire, how can it be that an extensive fatty degeneration of the kidney, and, what is more, a *chronic* fatty degeneration, should clear up in so short a time after delivery and leave no trace behind? *A priori*, this seems hardly possible. Such a consideration, too, brings into one's mind those cases of functional or cyclic albuminuria which are now occupying so largely the attention of physicians, and one cannot help asking whether also, in the less grave form of puerperal albuminuria we have to deal with a merely functional derangement. In this connexion I may be permitted to refer to some observations upon which I am engaged, and which, although not yet completed, have already yielded curious results. I will not go into details, for I purpose publishing the results later on in a more complete form.²

The precipitate obtained by the action of nitric acid or heat upon an albuminous urine is not one simple albuminous body, but is composed of serum-albumen—possibly in several varieties, only distinguishable by their *physical* properties,—and, in addition, a substance *chemically* different from serum-albumen—that is, globulin. This may be separated from the serum-albumen by saturating the neutralised urine with sulphate of magnesium in the cold; the globulin is precipitated in a soluble (non-coagulated) form, and the serum-albumen remains in solution. I am engaged in trying to determine what is the proportion of globulin to serum-albumen in albuminous urines, and whether this ratio varies in the different varieties of kidney disease, and in the different stages and phases of the same disease. Such a research seemed likely to throw light on the intimate pathology of albuminuria, and I specially hoped to find by this means a chemical diagnosis between albumen due to organic kidney disease, and that occurring, usually in cyclic rhythm, without kidney disease. My observations are as yet too limited in number to permit me any generalisation, but their results are certainly suggestive.

In four observations upon the urine of a case which presents all the most characteristic phenomena of functional albuminuria, I have found that the precipitate with nitric acid or heat is composed entirely of globulin, not a trace, or only the very faintest trace, of serum-albumen being present. This determination may be contrasted with that of a case of

¹ Being the basis of remarks made during a discussion on a case of Albuminuric Retinitis occurring in Pregnancy at the Harveian Society of London.

² See also THE LANCET, June 5th.