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NEURALGIA

OF THE

INFERIOR MAXILLARY NERVE.

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“ Operations have come at last to represent the whole science.”

JOHN BELL.

THIS case I am induced to communicate, as it resisted all the remedies employed but the knife, and as the nerve was cut where it enters the osseous canal; a point at which I do not find any author on the subject mentions the operation to have been performed. On the contrary, it is considered by some as impracticable, by others as hazardous.

Neuralgia, from the days of Hippocrates to the present time, has been frequently the subject of observation. It is a disease of such peculiarity, and so painful in its symptoms, that it could not fail to excite the attention of every one who has witnessed it. Various ingenious theories have been proposed to explain its nature, and still more numerous have been the remedies for its cure. Of all the theories which have been advanced, that of Pouteau appears the most rational, if we divest it of its humeral pathology. Bobemoreau has published the history of a case of neuralgia of the face, which assumed the intermittent type, and which this physician removed for six months by administering cinchona and opium. Pinel relates another case of a soldier who laboured long under sciatica, having recovered by joining his regiment on a campaign. Neuralgia has been found in the same constitution with hysteria and hypochondriasis. Thouret, Andry, and Heurteloup, cured patients labouring under neuralgia with magnetism. Blunt cured a lady affected with neuralgia with electricity. The infra-orbitary neuralgia presents either the remittent or intermittent type; the latter more frequently.

From these facts and observations, as well as the whole history of the disease, I am somewhat surprised that Chaussier, and

several French authors of the present day, should consider neuralgia true phlegmon or phlegmasia of the nerves. Chaussier describes it as consisting of pulsations, lancinations, and tearing or dragging pains, without any other inflammatory symptom either before or after the paroxysm. He and his followers state, that there is no redness or increase of heat in the soft parts. They only allow, that sometimes the skin is affected with tumefaction, and a light colour. Such an assemblage of symptoms never can authorize the appellation of phlegmon; otherwise, we must remodel those characterizing phlegmon. Rousset, who is of the same opinion with Chaussier, and who dissected a case of sciatica in the Hotel Dieu, mentions that the envelope of the nerve was a little relaxed, and that the veins of it were varicose, but that no other appearance was manifest. Captain G——, the subject of the well marked case related by the late celebrated John Bell in his volume on Tumors, died last winter, and I had the good fortune to dissect him. Sixteen years ago I was present when Mr Bell cut the infra-orbitary nerve of the left side; but since that time, the supra-orbitary and mental nerves of the same side had also been cut. In the dissection, the supra-orbitary was first examined; the nerve both before and after the division appeared perfectly natural. The point of division was white and dense like cartilage, and formed a considerable mass of substance, somewhat in resemblance to a ganglion, such as the semilunar. The infra-orbitary presented a similar appearance: at the foramen, there was a quantity of this white dense matter; but the twigs of the nerve quite natural, were distinct beyond this point, and were evidently connected with it. Precisely the same was observed at the mental foramen. Of the reunion of a nerve there cannot be the least doubt, after the experiments of Haighton and Swan, whatever may be the opinion of Richerand. One man often can accomplish what another cannot.—“They are ill discoverers that think there is no land, when they can see nothing but sea.”

Taking advantage then of all that has been written on the subject, it appears to me that neuralgia is a disease of a nerve wherein the sensibility of its extreme twigs are morbidly increased; so that, by the slightest irritation, this may become excruciatingly agonizing, and the parts supplied with the nerve be violently convulsed. “All the pains of the body,” says the illustrious Darwin, “may be divided into those from excess of motion, and those from defect of motion; which distinction is of great importance in the knowledge and the cure of many diseases. For, as the pains from excess of motion either gradually subside, or are in general succeeded by inflammation; so those from defect of motion either gradually subside, or are in

general succeeded by convulsion or madness." Now, it will at once appear evident, that neuralgia comes under the latter of these. That it is defect of motion in the nerve at first, is manifest from its being caused almost invariably by cold. This state of matter applied to the nerve appears to chill it for a time, then convulsive action follows; and the alternate quiescence and paroxysm are dependent on the laws of animation. Were neuralgia inflammation of the nerve, the pain would be as constant as in phrenitis, and there would be a deposition of coagulable lymph in the neurilema.

Of the various modes of treatment, the Cautery, either potential or actual, and the Knife, seem the only ones deserving notice.

The Cautery is the method adopted by the French surgeons of the present day;—they condemn the Knife. The former no doubt has been, and promises to be, generally as effectual as the latter; but in this country it has been so condemned, that the following observation of Pouteau is truly applicable. "*Les médecins qui se vanterent de pouvoir lui substituer avec avantage des moyens plus doux, trouverent facilement dans la crèdule timidité des malades, des apologies qui exaltoient leur réputation, en même tems qu'elles enervoient le médecine. Je sais ce qu'il faut penser de ces sortes de declamations, celles sont toujours quelque chose d'outré.*" Thus, when practitioners in this country, from ignorance or petulance, address language to their patients similar to that alluded to by Pouteau, is it to be wondered at that so strong a prejudice should exist against it! Whoever will take the trouble to read the history of the cautery, will not hesitate to apply it whenever it appears requisite. Prosper Alpinus thus eulogizes Egypt for the employment of the cautery.—"*Hoc igitur est illorum propositum auxilium, quod multis aliis utilitate in morbis antiquis præferunt, de ipsoque illi populi non parum jactantur.*" And Pouteau observes, "*Les modernes ont eu le plus grand tort, d'avoir abandonné et même condamné des moyens de guérir, auxquels ils n'ont supplée par aucun autre de pareille efficacité.*"

The cautery seems to act primarily and almost solely on the extremes of the nerve affected, which, being the most sensitive and the most involved in the disease, will be paralyzed or destroyed for a time. Thus their increased sensibility will be subdued. "*L'action du feu sur les nerfs, dit M. Pouteau, est d'abord celle d'un agent qui est l'ame de toute la nature.*" The moxa and red-hot iron are preferable to any of the caustic preparations.

The Knife, which is the fashion of this country, and which, in the hands of the blood-thirsty, has threatened again and again

to degrade our profession, must act by cutting off the source of the diseased nerve for a time; and hence the increased sensibility will be subdued. It has frequently failed in this, as in many other diseases, to accomplish a cure.

Mercury has been used in two or three instances of neuralgia of the face with success; but these are not numerous enough to decide its efficacy. Again, it has been known to give rise to sciatica. "L'action du mercure, dit M. Richerand, principalement celle du muriate mercuriel oxigéné, y a quelquefois donné lieu." Where it was administered in the affections of the face, it aggravated the pain until pushed to excite violent ptyalism; it must consequently act by overpowering the sensibility of the nerve, partly by exhaustion, and partly by the tumefaction of the face.

Neuralgia of the face is liable to be confounded with toothach, hemicrania, rheumatism, abscess of the maxillary antrum, muscular cramps; and, we may add, the pressure of too many teeth in either of the maxillary bones. A very interesting case of this nature occurred to me last year, of a lady who was tormented with pains resembling those of tic douloureux, and which were removed by extracting one wisdom tooth after another. The teeth had so little room that, in their descent, the crowns were turned towards the cheeks. Similar cases, I understand, occur occasionally to the dentists. Pujol thus characterizes the symptoms of neuralgia, which appear clear enough to distinguish it from other diseases. "Les douleurs sont momentanées et extrêmement aiguës, qui se font sentir de temps en temps comme des coups électriques dans certains lieux déterminés de la face, qui de là rayonnent en différens sens, et font éprouver la sensation d'un instrument tranchant plongé dans les parties molles."

I have made these preliminary observations, in consequence of finding the disease little known, and often misunderstood. A gentleman in this neighbourhood consulted me, about three years ago, for neuralgia of the mental nerve; when, to my surprise, on examining his mouth, not a single tooth had been left. He appeared, in place of a man in the meridian of life, one between sixty and seventy. The division of the nerve, at its exit from the mental foramen, gave immediate relief.

The patient whose case I am about to detail, is a labourer within 10 miles of this place, 55 years of age, and of a sound constitution. He was attacked with this complaint some time in July 1819; and his medical attendant, imagining the affection toothach, extracted the third and fourth molar teeth of the lower jaw on the right side, the place where the pain was acutely felt. This, however, procured no relief. Various remedies

were then employed, such as narcotics, purgatives, blisters, and local bleedings; but all to no purpose. The disease daily increased, both in severity and duration; and, after five months painful struggles, he applied at the Hospital, where he was put under the care of a physician of no inconsiderable talents, who administered narcotics both internally and externally to a great extent, to try their efficacy, before resorting to more powerful means. After six weeks ineffectual trial, the man, worn out with his sufferings, and despairing of ever obtaining relief, requested his dismissal, which was accordingly granted. He then, by chance, happened to meet a patient on whom I had operated for hernia, who sent him to me.

When he called on me, towards the end of December 1819, he was incapable of describing his sufferings, from the dread of bringing on a paroxysm; for whenever he spoke, eat, or moved any of the muscles of the right side of the face, instantly an attack came on. He referred me to his daughter, who accompanied him. She then told me the preceding short history of her father's complaint, and mentioned that the pain began near to the second molar tooth of the inferior maxillary bone on the right side, darting from thence to the ear and to the eye and the temple of the same side, accompanied with a violent convulsive action of the muscles of the face, with redness of the skin, and a flow of tears. He had not been long in the room when a paroxysm attacked him, and I witnessed a painful exhibition of these symptoms; he clapped his hands to the sides of his head, as pressure always soothed his sufferings, and continued writhing in agony for a few minutes. None but an eyewitness can conceive the tortures in this malady. Their effects are faithfully pictured by a French author as follows—"Le malade qui est frappé d'une névralgie maxillaire, redoute de prendre quelques alimens; la douleur est si vive que les malades se soumettent sans frémir aux opérations les plus douloureuses: ils réclament aux mêmes les vésicatoires, les moxas brûlans, la cauterization la plus cruelle: dans l'espoir de trouver un terme à leur maux, ils desirer avec ardeur le secours si généralement redouté, du bistouri. On a vu plusieurs malades mis au désespoir par une névralgie maxillaire, ne pas hésiter à se faire arracher successivement toutes les dents, à subir le contact répété du cautère rougi à blanc, braver les plus vives douleurs, et mépriser les cicatrices les plus hideuses; d'autres après avoir tenté sans succès une multitude de traitemens divers, n'esperont plus dans la puissance de l'art, ni dans celle de la nature, ont mis fin volontairement à une existence qui était devenue pour eux le plus horrible des supplices." The paroxysms recurred every half hour, both in the day and during the night. When I

proposed to him the moxa or the knife, he entreated for the latter, as it would sooner decide the chance of relief. Accordingly, next day, in presence of Mr Allan, surgeon to the Infirmary, and Dr Grant, house-surgeon to the same establishment, and several of Mr Allan's and my own pupils, I divided the nerve as it emerges from the mental foramen of the inferior maxillary bone, by cutting the lining membrane of the mouth from the gums, precisely below the second molar tooth, an invariable guide to the situation of the foramen.*

The nerve, as it runs up to expand on the cheek, (for in this instance it had not yet branched into its twigs), being quite evident, I cut away a portion about the fourth of an inch. When the nerve was cut, he gave a leap, a sure criterion that it was divided. From the moment of division, he was no longer molested with pain. The wound healed in a day or two, and he returned to the country, where he resumed his occupation as a labourer, and enjoyed excellent health, until one morning in December last he was suddenly awaked with the same torturing pains.

Thus he had been freed from the disease for the space of twelve months.

After enduring these excruciating tortures day and night for five weeks, and hourly becoming worse, the paroxysms recurring at shorter intervals, he came to town, and called on me on the 3d February last. The symptoms were nearly the same as formerly. They returned at shorter intervals, scarcely five minutes intervening between the paroxysms. When I again proposed the cautery, he instantly entreated me to cut the nerve, for he had no faith in any thing but the knife; and, as the last operation was so trifling, compared with the pain he then and now endured, I appointed the next day,

4th February—When, in presence of Dr Duncan junior, Professor of Materia Medica, Mr Allan, surgeon to the Infirmary, Dr Campbell, lecturer on Midwifery, Dr Milligan and Dr Moore, I made an incision inside of the mouth, in a line with the inferior maxillary bone, precisely beneath the second molar tooth, separating the lining membrane of the mouth from the gums. My intention was to lay bare the nerve, and remove a piece as formerly; but in this I was disappointed by the old cicatrix, which by its thickening had obscured the nerve, where I presumed it had formed a junction. The mental foramen

* A straight line, drawn from the second molar tooth of the inferior maxilla to the base of the bone, will always indicate the mental foramen: and a straight line, drawn from the second molar tooth of the superior maxilla to the margin of the orbit, will invariably bisect the infra-orbital foramen.

could be distinctly felt; and the application of the finger or knife excited severe twitchings. I therefore cut across the nervous matter, which relieved him, and quieted the convulsive actions of the muscles. To endeavour to prevent a reunion of the nerve, I inserted a small piece of dry sponge into the wound, to excite suppuration and gradual granulation.

5th.—Had passed a better night than for the last ten days, but felt uneasy from the sponge. The wound was ulcerating and pouring out matter; I therefore removed the sponge, and inserted a small piece of lint.

6th.—The pain had been equally severe all night as before the operation. I therefore prevailed on him to allow the actual cautery to be applied to the wound; and I endeavoured to sear the nerve at the foramen, as well as the cut twigs. The next day, as he had felt no relief from the cautery, I scarified all round the foramen, and again cauterized. I dreaded exfoliation of the bone; which, however, I find was intentionally done by André in one case, with perfect success. He passed a much better night compared with the preceding, and accordingly next day I repeated the cautery to the same extent. In this way of applying the cautery, which always mitigated his sufferings, I continued till

The 18th, when at the suggestion of Dr Duncan and Mr Allan, who always met me in consultation, and to whom I consider myself under many obligations for their valuable advice, I cut the inferior twig of the facial nerve, which communicates with the mental. I made a small perpendicular incision a little before and parallel to the ramus of the inferior maxillary bone, where the nerve emerges out of the parotid gland over the masseter muscle. I then divided the nerve, and removed a piece about the fourth of an inch.

This operation so far lessened his sufferings, that he experienced a better night than since the last return of the complaint; and the following day was passed with intervals of two hours free of a paroxysm. In two days after, however, the pains returned as severe as ever. It was therefore deemed advisable to extract the second molar tooth, the point where the pain commenced, and cauterize down to the canal of the nerve. This was accordingly done; but no relief was experienced, excepting for a short while after the application of the cautery. The same was repeated for three days successively, but all to no purpose. He continued as much tortured as ever. It was truly heart-rending to witness his sufferings.

On the 25th, I proposed to the gentlemen who had met me before in consultation, to cut first the inferior maxillary nerve as it enters the osseous canal, then the facial at its exit from the

stylo-mastoid foramen, and, thirdly, the infra-orbitary, independent of what is urged against the two first operations by Dr Haighton and Mr Swan, rather than suffer this poor wretch to endure such misery.

On examining the mouth, great pain was given by touching the coronoid process of the lower jaw bone, as well as the gum all along the right side.

The next day, the 26th, I tried to divide the nerve, by introducing from the inside of the mouth a sharp-pointed curved bistoury along the inside of the coronoid process of the inferior maxillary bone, between it and the pterygoideus internus muscle to the foramen; then lateralizing the instrument outwards, and cutting towards me, with the expectation of hooking the nerve. In this I experienced considerable difficulty, from the superior maxilla shutting up, as it were, the space. He felt at one time excessive pain, indicating the division of the nerve. He was easier during the afternoon, but passed nearly as bad a night as formerly. The following day,

The 27th, the pain was confined to the seat of the extracted tooth; this, therefore, was cauterized. As the operation of yesterday had caused considerable tumefaction, so as to prevent any examination of the wound, we put him on a course of carbonate of iron, which he took to the extent of two ounces daily. This he continued to the

4th of March, without receiving the least benefit. To-day I prevailed on him to allow the application of the moxa, which was accordingly done; but he could scarcely suffer it.

15th March.—He was relieved a little during the afternoon of the day the moxa was applied; but the following day his sufferings were as severe as ever. The tumefaction of the muscles in the neighbourhood of the wound last inflicted, having now subsided, and the sore formed by the moxa healed, I again attempted to divide the nerve as it enters the foramen; but in place of the bistoury, I made first a perpendicular incision with a scalpel close to the coronoid process, and then introduced a round shaped gum lancet between the process and the internal pterygoid muscle, and scarified the bone at the foramen. When the lancet reached the seat of the nerve, the pain he experienced was intolerable; and it was with difficulty he could sit till I cut the nerve completely. From this moment there was a sudden and satisfactory termination to all his sufferings, similar to what had occurred after the first operation in December 1819; and from this time he has continued well. The other day I saw him toiling in the field with apparently great enjoyment of life.

6, *George-Street, 25th August 1821.*