DR. MACLACHLAN'S CASE.

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When this has succeeded to an injury, the nature of the case will doubtless be rendered more apparent.

The inutility of issues in this form of spinal disease seems to depend on the kind of texture affected. My own experience perfectly coincides with what appears to be the established doctrine on the subject, viz. that caustic issues never prove of any service, except in instances accompanied by ulceration of the intervertebral substance. Perhaps in this way we can explain the relief from uneasy feelings in the lower limbs, which Mr. Earle's patient is reported to have experienced for some little time subsequent to the insertion of two caustic issues; as in this case there was not only extensive destruction of bone, but also ulceration, with loss of substance of part of the cartilages.

109, George's-street, 27th Nov. 1827.

XII. *Case of Pulsating Tumour of the Scalp, from Dilatation of the Branches of the External Carotid Artery.* By G. M. MACLACHLAN, M. D. One of the Surgeons to the Glasgow Royal Infirmary.

[With a Lithographic Sketch.]

ON the 9th July, 1825, W. Maclure, æt. 30, a discharged soldier, asked my advice about a pulsating tumour of a singular appearance affecting the principal arteries of the scalp on the left side. Having caused that side of the head to be shaved, the better to observe the nature of the tumour, it presented the following appearances:—

Soft, puffy, pulsating and somewhat elastic swellings of a varicose appearance were found to occupy the course of the temporal, posterior auris, and occipital arteries and their principal branches; each branch terminating by a tortuous extremity. These swellings could be made partly to disappear on pressure, but on its removal, they speedily regained their former volume. They pulsated throughout their whole extent, and the pulsations were synchronous with those of the heart. By pressing on the common carotid, the pulsations ceased all along the swellings; and, by intercepting the flow of blood through the temporal or posterior auris, the throb was interrupted in corresponding parts of the tumour. They were not painful on being handled, but he complained much of the torture he had experienced for the last two months, from the throbbing, which often deprived him of rest for nights together, and, as he said, made his existence miserable to him. The integuments covering the swellings

were of their natural colour ; only at those points which were most prominent, they had a slightly blueish-red tinge.

This *arborescent* tumour commenced in front of the ear, immediately over the zygoma, and quickly swelling out, it became of the size of a split lemon, lying transversely over the ear. It sent a process forwards on the forehead, communicating by a tortuous extremity with the supraorbital twig from the internal carotid ; a large process upwards to the crown of the head ; and backwards, the main body of the tumour communicated with the puffy swellings of the posterior auris and occipitalis, which latter vessels gave a varicose feeling to the scalp over the left side of the occiput.

The largest and most prominent part of the tumour was immediately over the ear : at this point, the throbbing was very violent, and the integuments being very thin and rather pointing, it threatened ere long to burst.

The history he gave of his disease was the following :—About ten years previously he had the temporal artery opened for an attack of ophthalmia. A small aneurismal tumour formed at the point of incision, for the cure of which the artery was cut across, lower down ; but this not succeeding, the vessel was again exposed and a ligature applied. The little tumour disappeared, he says, only for a time ; on its return it was but small, gave him no uneasiness, and although he served as a soldier for five years afterwards, he never complained of it to his surgeon.

This disease seemed to me different from any kind of aneurism by anastomosis that I had either seen or read of. It evidently followed the ramifications of particular arteries, for, by pressure being made on a particular vessel, a corresponding portion of the tumour became flaccid and pulseless, showing distinctly that no free intercourse by means of cells existed in it.

I proposed the trial of pressure : he said it had already been employed, and that it gave him so much pain that he would not again submit to it. He urged me at once to proceed to tie the carotid artery, as he was informed that that was the only means by which the disease could be effectually cured. I then explained to him the possibility of taking up the vessels singly ; and that, should we fail, it was then in our power to tie the common carotid. He agreed—and with the assistance of Professor Towers and Dr. Anderson, I began by laying bare the temporal artery as it emerges from the parotid gland : but on dividing the fascia-like substance which kept it in situ, it shot forth through the opening in the form of a loop, in calibre larger than a goose-quill ; thinner in its coats,

and, if possible, more diaphanous than a vein; and thrilling violently at each pulsation. A ligature was applied to this loop; the wound was brought together with adhesive plaster, and, for additional security, a firm compress and bandage were applied. It was now evident that the vessel was diseased at the point of ligature, and the propriety of tying the common carotid hence became obvious. Pulsation had, however, ceased in the anterior and central portions of the tumour, which felt flaccid and doughy, showing that this plan of treatment would, in all probability, have been successful, so far as the vessels of the scalp, at least, were concerned, could the state of the arteries have been trusted to.

Next day the common carotid was tied, in the presence, and with the concurrence of Professors Burns and Towers, Drs. King and Anderson. An incision, about two inches and a half in length, was made along the inner edge of the sterno-cleido-mastoid muscle, commencing at the lower edge of the thyroid cartilage, and extending downward to within half an inch of the sternal extremity of the clavicle. A large branch of the exterior jugular vein ran across the line of incision, but by carefully cutting through the fascia-like platysma myoides, the vessel was easily drawn aside along with that muscle. The sterno-cleido-mastoideus was now seen forming the outer margin of the wound, and the omo-hyoideus crossing it superiorly. The dissection was cautiously carried deeper, until the descendens noni was seen over the sheath of the vessels. The artery and par vagum were now distinctly in view, but the internal jugular vein, which frequently gives much trouble during this operation, did not at all appear. The sheath was opened by cautiously scratching with the point of the scissors between the carotid and par vagum, which nerve was carefully drawn aside. A blunt aneurismal needle, armed with a very fine silk ligature, was now introduced, and passed with ease, from without inwards, under the vessel. The ligature being tied, the ends were cut short, and the artery left undivided. The wound was brought together with sticking plaster, and a light compress and bandage applied. He did not lose above a spoonful of blood, and his pulse, immediately after the operation, was 78, and of good strength. Immediately on tying the vessel, the varicose tumours of the head became devoid of pulsation and felt flaccid, although their prominence was but little diminished.

In the evening he felt his neck rather stiff—had slight headach seated principally under the *right* temple. Took some food with relish. Pulse 84. Skin rather hot.

11th July. He passed a good night. Wound free from

pain. Pulse 92. But in the course of the forenoon he was seized with severe pain of chest, particularly in the right side. Pulse 120, of moderate strength. Skin hot. Tongue white. No stool. *V. S. at two bleedings to 70 oz.—saline purgatives—a blister—blood first drawn much buffed.*

12th. A bad night. Pain of chest easier, but breathing much oppressed, from a sense of weight over the chest. Pulse 108, soft. Skin nearly natural. Two copious stools. Wound feels quite easy. *Tinct. Digit. and Anodyne at bedtime.*

13th. A good night, having slept for five hours. Respiration and sense of oppression as yesterday. Towards the afternoon complained of pain in the region of the liver, increased on pressure. Pulse 116, rather full. No stool. *V. S. to 24 oz.—castor oil—turpentine enema—warm fomentations—anodyne at bedtime.*

14th. Dozed during the whole night, and now mutters almost constantly, but he is quite collected when spoken to. Said the pain of liver was easier. Respiration much oppressed. Pulse 144, feeble. Perspires copiously. No fæces passed with the enema. He became gradually worse, and died at five p.m.

Dissection, fifty hours after death, in presence of Dr. Anderson and several medical gentlemen of Paisley, to which town the body had been removed. The weather being very hot, putrefaction had made considerable progress. The viscera of the abdomen appeared healthy. The intestines were much distended with flatus, devoid of fæces and blanched.

In the chest, some straw-coloured puriform matter was found in the anterior mediastinum: about a pint of thick grayish mucopurulent matter in the right cavity of the pleura, and a small quantity of bloody extravasation into the left. The pericardium was unusually devoid of fluid—the heart large and flaccid.

The wound, which had adhered throughout its whole extent, by the first intention, had partially re-opened from putrefaction. The carotid, the par vagum, and jugular vein appeared as if they never had been disturbed—nor was there the least appearance of pus around the ligature. On slitting up the artery, and cutting through the ligature at the same time, (the ligatured portion having been previously removed from the body), small but soft clots were found above and below the ligature, and the artery remained puckered from the recent deposition of lymph. Its inner coats were divided as with a knife, while its external was found dense, strong, and entire. Below the ligature, the inner coat of the artery was of a vermillion red colour, even that of the thoracic aorta bore equal marks of inflammation, but at the bifurcation it was of its

natural aspect; that portion also of the aortic arch nearer the heart than the coming off of the left carotid was healthy. The carotid in the neck was, of its usual size, strength, and thickness; but on examining its branches on the head, they were found to have degenerated into dilated tubes of extreme thinness and transparency; which, apparently, yielding to the impetus of the blood, had become elongated, contorted, and ultimately convoluted on themselves, so as to form, by this species of doubling, the tumours which constituted this singular disease. These tumours felt, like placenta, and to the eye, the larger portion immediately over the ear looked precisely like a bundle of earth worms coiled together.

I regret that from the peculiar circumstances under which this inspection was obtained, I had not an opportunity of examining, more at leisure, this very unusual disease of the arterial system, or even of ascertaining the exact point at which the disorganization commenced; whether the artery became gradually thinner, or whether the disease began suddenly; whether in the diseased portions the three coats existed, or the dense, but thin external one only remained; whether the branches of the internal carotid were similarly affected with the external, and thus giving rise to the epileptic fits to which he had recently become subject:—these points unfortunately must be left to conjecture.

I have been at some pains in searching through books for analogous cases, but Pelletan is the only author, as far as I know, who has distinctly described this disease. In his *Clinique Chirurgicale*, tome ii. two cases are given, which coincide in every particular with the one here detailed. One of these only, a girl 18 years of age, he had an opportunity of treating. Compression was first tried, but the patient could not bear it. He then tied the temporal artery: this promised to be successful, as far as the portion of the tumour supplied by that vessel was concerned, when unexpectedly the patient died, in consequence of an “indigestion.” He has fortunately favoured us with plates of this case, which are of great assistance in elucidating this subject, for he has said but little pathologically of the nature of the disease. He speaks merely of dilatation, but it is evident from plate ii. fig. 2, in which the convolutions of the arteries of the scalp are given, on dissection, that the view above advanced, viz. the doubling of the dilated vessel on itself, as the cause of the tumour, is a correct one. Boyer,* also, who saw this case, and has given the dissection more at length, says, in speaking of the structure

* *Traité des Mal. Chir.* tome ii. p. 295.

of the tumour.—“ Toutes les artères comprises dans la tumeur, au dessous du tissu donc nous venons de parler, étaient dilatées, flexueuses, bosselées, ici très larges, là très étroites, pleines de sang caillé, ou d'une humeur et blanche et épaisse. L'artère temporale depuis son origine, jusque vers le milieu de la tempe, avait éprouvé une simple dilatation... Plus haut l'artère temporale, et ses diverses branches, étaient bosselées, flexueuses, grosses et rouges.” His remarks on the occipital branches are to the same effect.

Mr. John Bell describes aneurism by anastomosis, to which the disease under consideration has most affinity, to be “ a congeries of active arteries, absorbing veins and intermediate cells.” Now, in the tumour which I have attempted to describe, there were no cells, no parenchyma as in the spleen, the bulk of the tumour was formed almost entirely by convoluted dilated arterial *trunks*, the veins being but little changed from their healthy state. These arteries did not appear to communicate more freely than by their ordinary inosculations; and in the less prominent parts of the swelling, they had more of the appearance of the contorted vessels of the gravid uterus, as represented in Tiedemann's beautiful plate, than any other anatomical comparison I can give. Mr. Abernethy* evidently alludes to this disease when he says, while speaking of *nævus*, “ for this preternatural enlargement of vessels is not always cutaneous. I have seen it occupying the whole substance of the cheek, neither appearing beneath the skin nor the membrane of the mouth. I have seen it in the orbit, &c.” The cases reported by Messrs. Travers and Dalrymple, in the London Med. Chir. Trans. vols. ii. and vi., in which the carotid artery was tied, for pulsating tumours of the orbit, appear to have been of this description.

I have made these remarks and extracts because I conceive there exists a pulsating tumour composed entirely of dilated and convoluted arteries, whose inosculations and interlacements are not more numerous than usual, only they become more apparent from their increased size. That this tumour may occupy a great extent of surface, such as the side of the head, the neck, or arm, from its following in a continuous manner the course of the arteries. That the term aneurism by anastomosis is not very applicable to it; and that from the advanced age of many of the persons in whom this disease has been met with, its congenital nature is more than doubtful, although Boyer, Pelletan and others are of this opinion. Whether, in the case of Maclure, the vessels were *perfectly*

* Surgical Works, vol. ii. p. 225.

sound at the period of opening the temporal artery, may admit of doubt. The difficulty of curing the small aneurismal tumour favours this doubt:—yet there certainly existed no obvious trace of enlargement of these vessels to lead to this conclusion. In explanation of this remark it may be necessary to state that the artery was opened by myself. The opening of the temporal artery, however, probably operated as an exciting cause on vessels already disposed to disease.

A sketch of the disease, previous to operation, accompanies this statement; and gives a much more correct idea of the appearances presented than any description, however minute, could possibly convey.*

XIII. Report of Surgical Cases, and Treatment, in the Glasgow Royal Infirmary, for the Summer and Autumn quarters of 1827. By WILLIAM YOUNG, M. D. Senior Surgeon &c.

THE duties of surgeon to the Royal Infirmary of Glasgow are performed by four gentlemen, appointed annually by the general board of directors of that institution. One senior, who must previously have officiated at least two years, and been two years out of office, and one junior who has never officiated before, are elected in room of the elder senior and junior who retire. This plan ensures popularity, it is agreeable to the profession generally, and for the prosperity of the establishment is perhaps the best that could be devised. It may fairly be questioned, however, how far it is well adapted for the improvement of surgery, for the investigation of protracted disease, or for the perfecting of any new plan of treatment. Until within the last twelve months, every surgeon behoved, at the end of three months' attendance, to hand over his patients to one of his colleagues; and except through the courtesy of that gentleman, could know no more of them; even of those cases which interested him deeply, and from which he augured important results. This, it is presumed, may partly account for the want of regular reports from the hospital published for the profession, and the very little benefit the art of surgery has derived from it, as a field of experience.

About a year ago, the surgical patients amounting on an average to upwards of eighty, being supposed too many for

* Since writing the above, I observe in two recent numbers of the *Lancet*, (211, 212) reports of a case of this disease, in which the carotid artery was tied by Mr. Wardrop. It is to be wished that this distinguished surgeon will, ere long, favour the profession with a more detailed account of it.