

ART. III.—*Report of Two Cases in which Ligature was applied to the Posterior Auris Artery.* By WILLIAM COLLES, Surgeon to Steevens' Hospital.

THE following cases present little similarity in the symptoms or appearance of the disease for which the operation was performed; they were both benefited by the operation, but in neither was the cure as perfect as could have been wished, for in neither was the disease a pure unmixed aneurism. I think both cases present features of interest, and are examples of the partial success of an operation of which we have few, if any, records.

Mrs. F., a stout, healthy-looking woman, aged 27, mother of three children, states, that five or six years ago her attention was first drawn to a spot behind the left ear as being the situation to which she referred a buzzing sound constantly annoying her whenever she laid the head in a recumbent position. She could discover no tumour at that time. The noise has gradually increased to the present extent, and about a year ago she first perceived the tumour and felt the pulsation in it. About three years since she had pain and deafness in the ear, but this was relieved by syringing. At present she can scarcely obtain any sleep in consequence of a loud ringing noise, synchronous with the pulsations of the heart, pervading the entire head, which is worse when she lies on the affected side. During the day, any motion of the head, especially stooping, is attended with a sense of weight and giddiness, so that she dreads making any exertion. She has always been nervous, and subject to palpitations of the heart.

On examination, a tumour is perceived, situated in the centre of the ridge of bone behind the left ear, and pushing it forward. It is about the size of a small walnut, measures one inch and a quarter in length, and three-quarters of an inch in breadth, smooth, and of the natural colour. On applying the fingers, a pulsation, with evident expansion, is felt in all parts of it. On increasing the pressure, the tumour, which feels quite soft and fluctuating, yields till we have the sensation as if the finger sank into a depression or hole in the bone, through which the tumour emptied itself. On removing the finger the tumour again rises. On applying the stethoscope a remarkably loud bruit de soufflet is heard, synchronous with the pulsation of the arteries; the posterior aural artery feels enlarged, and goes directly to the tumour. By pressure on this vessel the tumour becomes flaccid, the bruit ceases, and both again return on removing the pressure.

There was a considerable difficulty in arriving at an accurate knowledge of the nature of this tumour: the artery going into it, the pulsation and evident expansion of the tumour at each pulsation, and the existence of a bruit, would lead us to infer it to be an aneurism of the posterior aural artery. The evident internal derangement it caused; the large size of it compared with the size of the artery; its being entirely filled with fluid, yielding so readily, being so rapidly emptied by pressure; the feeling of hollow or cavity in the bone, and the fluid by pressure being evidently forced along this cavity; the very loud and prolonged sound heard by the stethoscope, not merely a bruit as in aneurism, but a prolonged rush of fluid, led to some hesitation in pronouncing as to the exact nature of the disease. However, as pressing on the artery had such influence on the tumour, it was resolved to try whether considering it as an aneurism, and accordingly treating it as such by pressure, would effect any amendment.

At first we tried to have pressure applied on the tumour itself, as presenting a larger surface and affording a more firm fixed point to act on; but we were soon obliged to abandon this plan, as it caused such intolerable pain. We then endeavoured to apply the pressure on the artery going to the tumour, but here we found it impossible to apply it: no instrument that could be invented could be kept applied steadily on the vessel, passing as it did on a high ridge of bone; it even required so many bands, the constraint and weight and tightness of them rendered the patient most miserable; and lying down, or moving the head, would cause them to shift their places. We were, therefore, obliged to abandon pressure entirely, and although there was some hesitation as to the nature of the disease, there was none as to the expediency of taking up the artery, which was done.

The patient lying on the sound side, chloroform being administered, an incision was made exactly over the line of the artery, the integuments divided on each side of it, and without proceeding to lay bare the artery by minute dissection, as I knew there was nothing of importance there to interfere, I proceeded to pass the ligature round the vessel by means of a small aneurism needle, with a narrow curve and a sharp point, introducing it at the anterior edge of the vessel, and making it scrape along the bone until it came out at the other side. I now could feel the artery included in the ligature, and proceeded to tie it, when the pulsation in the tumour ceased, and it became flaccid. The patient suffered much, first, from the effects of the chloroform, optic pain, sickness of stomach, and some feverish symp-

toms. However, the ligature came away on the ninth day; and the wound healed. She now says she is much relieved from the painfully loud buzzing noise in her head, and can sleep and move about much better. Though the tumour was still existing, soft and compressible, no pulsation was to be felt in it, and the existence of any bruit was a matter of doubt.

The results of the operation led us to infer that this was not a simple aneurism of the posterior aural artery; that it was not that pulsating tumour of bone described by Mr. Stanley; but that it could only be accounted for by acknowledging the existence of a communication between the artery and a large vein, or sinus, in the interior of the skull. It was suggested to try a further operation, of either injecting the tumour with solution of perchloride of iron, or solidifying it by means of the galvanic battery, or to lay it open and dress from the bottom. We were, however, unwilling to recommend the patient to submit to any of these proceedings, which would be attended with a great risk to her life; and as she seemed content with the advantage she had derived, we advised her to have nothing further done unless the disease progressed.

I subjoin the brief notes of a case I find in my father's handwriting, and which is alluded to by Mr. Harrison in his comprehensive work on the *Surgical Anatomy of the Arteries*.

James Fagan, aged 40, labourer, admitted September 2, 1810, for a complaint of left external ear. The lower half of the ear was thickened to nearly three times its natural thickness, was of a blue or slightly purple colour, and on its surface many small bloodvessels were visible. A very strong pulsation was felt in every part of this thickened portion of the ear, this pulsation corresponding with that of the posterior aural artery. The artery near to the cranium appeared to be of a much larger size than common, and pulsated strongly.

On August 31st the artery was laid bare, a double ligature passed under it, and divided, and each ligature tied separately. The pulsation, though considerably decreased, was still to be felt on the following day. This morning the pulsation can be more sensibly felt on the anterior part of the ear. The artery on the anterior part can be felt beating with uncommon violence. Pulsation of the transverse faciei. No unusual pulsation of the carotids, or any of the arteries going to the head. The swelled part of the ear has a fleshy feel, without any feel of distinct cavities^a.

^a Extracted from the Manuscript Report.