A CASE
OF
ANEURISM BY ANASTOMOSIS
IN THE LEFT ORBIT,

CURED BY
TYING THE COMMON TRUNK OF THE LEFT CAROTID
ARTERY.

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COMMUNICATED BY
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ON the 24th of November, 1812, Dinah Field, aged 44 years, of a delicate and sickly habit of body, came to me with a complaint in the left eye. She said, that about five months since, being then pregnant of her sixth child, she was seized in the middle of the night, with an intense pain in the left eye-ball, accompanied by a whizzing noise in her head, which grievously distressed her. "The attack was sudden, instantaneous." That, "hearing a noise as of the cracking of a whip, and feeling at the same moment an extraordinary kind of pain in the globe of the left eye, she awoke in great alarm, and leaped out of bed." About ten or twelve hours afterwards the eye became in-

flamed, and the eyelids so much swelled, as to project considerably beyond the level of the upper and lower orbitary ridges. She also felt acute pain over the whole of the left side of the head; and in the left eyebrow, and at the bottom of the orbit, her anguish was scarcely to be borne. In the succeeding night the extreme violence of the pain abated, but the swelling of the eyelids seemed rather to increase; and she thought she felt as if "the globe of the eye was forcibly driven upwards towards her forehead." No particular alteration took place in the next seven weeks, at the end of which she was delivered.

During her labour, which she said was very severe, there was projected between the eyelids a bright red tumour of an oblong form, which for seven or eight days gradually enlarged, until it occupied, in a vertical direction, almost the whole space between the superciliary ridge and the lower edge of the ala nasi; reaching horizontally from the external angle of the left eye, across the root of the nose, to nearly the internal canthus of the right eye. In the course of her confinement, this tumour was punctured in several places by a surgeon who then attended her. It bled freely, became smaller, and of "a strikingly darker colour." A week afterwards it was again punctured, and with similar results; and although the operation was repeated four other times, the latter incisions afforded no relief.

About two months previous to the appearance of this swelling, the patient lost all power over the levator muscle of the superior palpebra: but if the swelling was depressed and the upper eyelid raised, she said she could see as well as ever. She soon afterwards became totally blind on this side.

Such was her case, and such her appearance, when I first saw her on the 24th of November. She was then only a week under my care, and ceased to be so from the end of November till the middle of March, a period of three or four months. When she again became my patient her general health had sensibly declined; and her condition was very wretched. The local affection was also marked by very decided characters. It was distinctly ANEURISMAL. Her pain was constant and acute, and chiefly referred to the bottom of the orbit; but her severest suffering was occasioned by an unceasing noise in her head, which she compared to the "rippling of water," and said, "that it became absolutely insupportable whenever by any accident her head fell below a certain level."

The left eyeball was immoveable; and either enlarged, or thrust with so much force against the upper eyelid, as to cause this part to project in a convex form, considerably beyond the superciliary and infra-orbitary ridges. The eyebrow also of the affected side rose somewhat above the range

of that of the opposite side. The external surface of the tumid eyelid was for the most part soft and elastic to the touch, but its cuticle was remarkably coarse, as was, indeed, the texture of the skin generally in the vicinity of the orbit. Deep seated between the integuments of the eyelid, a little towards the inner canthus of the eye, there was a cluster of small tumours of a firm and dense structure, causing great pain when compressed, and communicating to the finger a pulsatory thrill. Interposed between this cluster and the lower edge of the eyebrow, precisely in the course of the frontal branch of the ophthalmic artery, there was a hard tubercular substance, which rose somewhat higher above the general surface of the eyelid, and pulsated still more distinctly than the smaller swellings. The texture of this substance was particularly hard and compact, the slightest pressure upon it occasioned intolerable pain. The lower eyelid was averted, and formed a bright red convex tumour, following, in its outline, the direction of the inferior edge of the orbit, and reaching from the external commissure of the eyelids a little way beyond the tendon of the orbicularis muscle. At its upper part it was covered by an over-lapping of the upper eyelid, which was paralytic, and entirely concealed the globe of the eye. The most depending point of this tumour reached to within a line of the sub-orbital foramen. Like the tumours at the upper part of the orbit, this swelling communi-

cated to the touch an aneurismal thrill, which also became evident to the sight whenever the force of the circulation was increased. In addition to these appearances, immediately above the nasal third part of the superciliary ridge, the integuments were gently elevated into a soft ill defined tumour, occupying very exactly the situation of certain branches of the frontal artery, and pulsating simultaneously with the artery at the wrist. A similar elevation of the skin was perceptible at the root of the nose, giving a faint tremulous motion to a finger placed upon it. When the globe of the eye was uncovered, it appeared, at first, to be enlarged, but a closer inspection shewed it to be forcibly thrust forwards, in a direction somewhat outwards and upwards towards the root of the orbit. A multitude of enlarged vessels might be traced from the surface of the lower tumour to that portion of the conjunctiva which covers the sclerotic coat of the eye. The cornea retained its natural lustre and transparency, but there was a total loss of power in the fibres of the iris; and the pupil, which was much dilated, had a slightly irregular figure. Behind the lens a fawn-coloured appearance was observed, similar to that which is represented in the second plate of the posthumous work of that admirable observer, Mr. Saunders. The cutaneous veins of the face generally were very full of blood, and gave to the skin of the whole of this side of the face, the complexion of a person strangled. When strong pressure was made

upon the common carotid artery, the tremulous motions of the tumour situated at the lower part of the orbit ceased entirely, but the pulsations of the upper swellings continued in some degree. The force of the stroke was, indeed, much weakened, but no pressure which the patient was able to bear could entirely suppress it.

Such is the exact description of this interesting case when it came a second time under my examination, and I could not fail to perceive in it the characters of that particular affection of arteries which, with perhaps a doubtful propriety, has been called "Aneurism by Anastomosis," as well as the closest resemblance to the case, which, with a master hand,^h as been described by Mr. Travers in the second volume of *Medico-Chirurgical Transactions**.

At noon, therefore, on the 7th of April, 1813, I tied the common trunk of the left carotid artery, in the presence of Dr. Wright, the late Dr. Reeve, Mr. Stevenson, and some other gentlemen.

The operation was performed after the manner adopted by Mr. Astley Cooper, in the case of

* It would be difficult for me to over-state the assistance which I derived, in this case, from the excellent paper above-mentioned : and I eagerly embrace this opportunity of acknowledging an obligation, the value of which can be appreciated only by those who may have been placed in situations of similar responsibility.

Humphrey Humphreys, with a single deviation*; and its course was marked by the same circumstances which attended the operation of my distinguished friend. As soon as the margin of the mastoid muscle was raised, the descending nerve of the ninth pair was exposed to view, and when the sheath of the artery was laid open, the par vagum was seen at the outer side of the vessel. The jugular vein, pushed by the fore-finger of the left hand beneath the edge of the mastoid muscle, afforded no embarrassment. Nothing but the bare artery was included between the ligatures, which were formed of a small, but very strong *round twine*, and placed at the distance of about an inch and a quarter from each other. They were tied very firmly around the trunk of the artery, which was divided in the interspace, at the distance of about two thirds of an inch from the lower thread. The edges of the wound were brought together by the common adhesive strapping; and the end of one of the ligatures was marked for the sake of subsequent observation.

The effects of the operation were immediate and decisive. As soon as the ligatures were tied, the pulsatory motions of the tumours on the forehead and cheek entirely ceased; but a slight *thrilling* was still perceptible in the tumid upper eye-

* This deviation consisted in omitting to pass the needle and thread through the artery, above one ligature and below the other.

lid. The red swelling of the lower eye-lid became paler, and its surface shrivelled. A few minutes after the patient was placed in bed, she was quite free from pain, and the noise by which she had been so long tormented having now also ceased, she declared to Mr. Stevenson, that "her head no longer felt like her old head."

At 5, *p. m.* there was no pulsation in any of the tumours. She had suffered a good deal of heavy pain at the hinder part of the head, but that had subsided, and she was calm and clear.—Pulse 102.

9, *p. m.* Some stiffness and difficulty in the act of swallowing, with restlessness and anxiety.—Pulse 104.

8th April, 7, *a. m.* Had passed a tranquil night, though with very little sleep.—Pulse 100 and soft.

1, *p. m.* Calm and easy, intellect perfectly clear. The upper eye-lid, for the first time during several months, was moveable.

9th April, 7, *a. m.* Had passed a good night with much refreshing sleep. Pulse 100 and soft. The tumour over the inner part of the eye-brow entirely gone. The swelling of the upper eye-lid was much smaller, its texture much softer, and it was less painful when compressed. The globe of the eye was also considerably retired within its orbit.

At the wound all was quiet, but there was much difficulty in swallowing.

10, *p. m.* Had passed a tranquil day, and was very cheerful.

10th April, 7, *a. m.* An excellent night. Pulse 98.

1, *p. m.* Bowels relieved. Pulse 96.

11th and 12th April. Two excellent days and nights. Pulse 84 and 80.

13th April, 10, *a. m.* Had passed an indifferent night, and was very unwell. The first dressings removed. The edges of the wound had united throughout their whole extent, except the extreme points where the ligatures were placed.

2, *p. m.* Two hours ago had a smart rigor, and was now become hot and thirsty.

9, *p. m.* Fever fit subsided. Pulse 90 and soft.

14th April, 6, *a. m.* An easy night, with much refreshing sleep.

2, *p. m.* She was very unwell, complaining much with a good deal of general commotion in the system. Pulse 112 and hard. Sixteen ounces of

blood were taken from the arm, and a purging mixture ordered.

5, *p. m.* Had been purged twice, and was now cool and easy. Pulse 90, soft and flowing.

15th April, 8, *a. m.* Quite at ease. Great changes have taken place in the tumours. The globe of the eye was completely retired within its orbit, and the general prominence of the upper eye-lid had sunk proportionably. Not the slightest pulsatory or thrilling motions were perceptible in any of the diseased parts.

15th, 16th, and 17th of April. Prosperous days. On the last day the patient got out of bed, for the first time.

18th April. The upper ligature came away upon the dressings this morning, being the eleventh since the operation.

From the 21st of April to the 3d of May, daily improving in health and strength.

4th May. During the last three or four days, the lower ligature had been gradually rising to the surface, and to-day it came away, followed by a large discharge, but unaccompanied by the slough of the artery.

7th May. Within the last two days, loose, luxuriant granulations had arisen at the extremities of the wound where the ligatures were inserted. These were treated with the nitrate of silver, but their growth was restrained with difficulty; and the quantity of matter was too large.

10th May. A smart fever fit to-day, with pain and tension, and redness of the skin along the edges of the cicatrix.

12th May. A sinus had formed, and a considerable discharge of pus took place at the lower opening.

17th May. The loose spongy granulations having subsided, and the wound being nearly healed, the patient was this morning allowed to return to her family. From this period to the 3d of July, nothing material occurred. The tumours had all disappeared, and the patient's general health seemed re-established; yet the wound was not entirely closed. Pale, flabby granulations daily arose at the points where the ligatures were placed on the artery, and several small sinuses, forming in slow succession, occasioned much trouble. At length, on the evening of the 3d of July, I was called in great haste, in consequence of a bleeding which had taken place at the lower part of the wound. I went instantly; but the hæmorrhage had ceased before I could reach the house. The colour of the

blood was florid, the quantity lost computed at ten or twelve ounces. This accident distressed me greatly, and produced so much commotion in the system of my poor patient, that the spongy substance which surrounded the little opening whence the blood had flowed, was forcibly propelled from the wound by every stroke of the heart.

A similar discharge took place on the evening of the 9th of July, which, like the former, ceased spontaneously; and happily proved the last of a series of incidents not unlikely to disappoint the hopes which the earlier circumstances of the case had inspired. From this period, however, the course of events was prosperous; and on the 19th of July, which, reckoning from the morning of the operation, comprizes a period of 103 days, the wound was firmly healed, and the patient's recovery secured. Of her present state it only remains for me to observe, that, after a lapse of nearly two years, her cure appears complete, with the exception of her sight, which seems irrecoverably lost. Nor can I, at this period, entertain a fear of a recurrence of the disease, notwithstanding the apprehensions which, in reference to cases of this kind, have been felt and expressed by a great master of our art.

With respect to the state of the local circulation, as far as it can be known, there is no pulsation to be felt in any of the branches of the tem-

poral and facial arteries on the side on which the ligature was tied. But, as in the case treated by Mr. Travers, “ the artery may be distinguished beating very feebly below the angle of the jaw ;” and a very brisk action of collateral branches, lying near the surface, is visible in the vicinity, and along the course of the cicatrix.

Norwich, Feb. 1, 1815.