CASE OF
ANEURISM,
IN WHICH THE
SUBCLAVIAN ARTERY WAS TIED
ON THE RIGHT SIDE,
INTERNAL TO THE SCALENUS
MUSCLE,

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ELIZA MOULANG, aged 57, of intemperate habits, unmarried, residing at No. 8, Myler's-alley, states, that in November, 1834, she perceived a small pulsating tumour, of the size of a pea, about an inch and a half below the right clavicle, and nearly the same distance external to the sternum. She was never subject to palpitations. She had, previously, with the exception of a severe attack of erysipelas, enjoyed pretty good health. In April, 1835, the tumour had slowly increased to the size of a marble; at about that period she suffered from considerable anxiety and depression of spirits. Now, for the first time, she felt a lancinating pain in the tumour, extending to the shoulder. This, however, subsided in a few days. Up to the middle of August, she experienced so little pain or inconvenience as to be able to follow her usual domestic avocations, the pain recurring only after unusual exercise. From the latter period up to the present, the tumour has been more markedly enlarging; the pain, which is increased at intervals, has never left her altogether.

Aug. 22, 1835. She was seen by Dr. Ireland, Messrs. Wilmot, O'Beirne, and Hayden, for the first time.

Sept. 7. The patient was admitted into the Anglesey Hospital. On examination, a large pulsating tumour was observed situated internally to the axilla, parallel to the upper edge of the pectoralis minor, and extending above the clavicle: it is circumscribed, and has pulsation referable to its inferior part. There is considerable tension on the upper portion of the tumour, the size of which can be diminished by pressure. Comparing the clavicle of this side with the opposite one, the former appears somewhat displaced, being pushed upwards. The arm, forearm, and hand were much swollen and oedematous some days since. "Bruit de soufflet" over tumour.

Results of stethoscopic examination not unfavourable in reference to operation for this disease, declared to be aneurism of subclavian artery extending to the *scalenus*. She now describes the pain as darting through the tumour to the back of the shoulder, and down to the elbow. She also complains of

an almost insupportable sense of weight and numbness in the whole extremity, although the swelling of it is inconsiderable.

From the 7th to the 15th of September, aperients, venesection, and anodynes were employed with only temporary alleviation of her sufferings.

Consultations were held, at which some of the most eminent practitioners of this city gave their assistance. The operation at the distal side of the artery was mooted; but, ultimately, it was decided, that the subclavian should be tied at the internal side of the scalenus, if that portion of the artery proved sound, and if not, to secure the *arteria innominata*. The sufferings from the aneurism were, at this time, very severe; anodynes in immense doses had failed to procure even temporary ease.

The patient, after a full statement of the grounds of our hopes and our fears, as to the result of the operation, expressed intense anxiety to submit to any measure which would afford even the slightest hope of removing her present almost intolerable sufferings, provided there was no probability of her expiring during the performance of the operation.

The consulting officers of the hospital, Drs. O'Beirne, Ireland, Sir James Murray, with Messrs. Wilmot, Kirby, Adams, Harrison, Evers, L'Estrange, were unanimously of opinion that the operation should be no longer postponed. These gentlemen were so kind as to give their valuable assistance on the occasion.

Operation.

Sept. 15, 1835, 3 o'clock, P.M. Patient placed on the back upon a large table, furnished with mattress and bolsters; head slightly depressed, and turned to the left side. First incision, commenced nearly at the left sterno-clavicular articulation, traversed the upper margin of sternum and clavicle, terminated beyond the posterior or acromial margin of the sterno-mastoid muscle, through integuments and platysma, including subjacent adipose tissue, of about a quarter of an inch in depth. Second incision, commenced about four inches from the sternum, a little to the left of the mesial line of the neck, so as to terminate by falling at right angles on the commencement of the first incision, dividing the parts to the same depth: two sides of a triangle were thus formed, the apex at the sternum. The flap, consisting of integument, platysma, and adipose layer, was raised from apex upwards and outwards; the outline of the sterno-cleido-mastoid was now very distinct, but still covered by the superficial cervical fascia; the latter was carefully divided immediately above the sternum, corresponding to the anterior edge and lower extremity of the sternal portion of the sterno-cleido-mastoid. A director was next introduced beneath this muscle, the fibres of

which were divided at about a quarter of an inch from the sternum and clavicle, and precisely parallel to its origin. The muscle was now raised upwards and outwards with the handle of a scalpel; a small vein was here tied. In the next stage of the operation, the sterno-hyoid and sterno-thyroid were divided upon a director. Hæmorrhage from a small artery and vein so inundated the part, that it was found necessary to secure them before the operation was proceeded with. After the displacement of some cellular structure with a director, the innominate, carotid, and subclavian were felt; compression of the last mentioned vessel suspended pulsation at the wrist and tumour. The first part of the subclavian was found not involved in the disease, and, consequently, it was decided that this vessel should be tied in preference to the innominate, which had been clearly exposed, and which, from its direction, and being uninterfered with by the clavicle, seemed to offer much less obstacle to the passage of the ligature; this was, at first, attempted with an aneurism needle, made of silver, in order that it might be bent so as to present a degree of concavity to the clavicle, to be determined by the displacement of this bone, and the depth of the artery. The eyed part of the needle, for about an inch, was made to slide off and on (like the canula of a trocar), so that when the extremity of the needle was brought around the artery, the eyed portion, with the ligature, might be withdrawn. But when the handle of the instrument was depressed, the upper part slipped from the lower before the latter had passed under the artery. The vessel was subsequently secured with Mr. L'Estrange's* needle.

This needle, when operating upon the subject, was found to unscrew in attempting to pass it under the artery. Mr. L'Estrange, with that ingenuity for which he is so remarkable, has obviated this objection by adapting a silver canula, which, on being pushed down, prevents the extremity from being unscrewed, and on being drawn up, admits of the separation of the eyed portion from the shaft. The surgeon's knot was made very readily in the usual manner; the middle and internal coats of the artery were felt giving way as the ligature was tightened, the extremities of which, having been brought over the clavicle, the flap was next laid down and retained by two points of suture, pledgets of lint, and adhesive plaster.

* This instrument is made of steel; has two eyes close to each other; the one farther from the point carries the ligature; the other receives a small steel hook that fixes the extremity of the needle while the shaft is unscrewed from that portion containing the eyes, which then may be readily drawn around the artery together with the ligature.

Eight o'clock, P.M.—Immediately after the operation, the pulse in the left wrist was 124, and soft; respiration somewhat oppressed, and became more so since, accompanied with partial loss of voice; difficulty of deglutition; felt an acute pain in the stomach after swallowing any fluid; considerable sense of tension in the neighbourhood of the wound:—tumour, which was considerably diminished, upon the application of the ligature, is now refilled, but, with an absence of pulsation; complains of pain somewhat similar to that experienced before the operation; coldness of the right-hand, which was removed by the application of warm flannels.

Acetate of morphia, $\frac{1}{4}$ grain; *camphor mixture*, $\mathfrak{z}$ i; *aromatic syrup*, one drachm. Mix. Draught to be taken at once.

The alkaline effervescing mixture, made with carbonate of soda and with lemon juice, every third hour. She felt considerable relief by being supported in the semierect posture by a bed-chair.

16. Pulse 130, hard; respiration somewhat relieved; difficulty of deglutition still continues; took a little tea and bread, which have not affected her stomach, as yesterday, since the bowels were moved by an enema. The tension was at once relieved by the removal of the dressings, and the division of the sutures.

Continue the effervescing mixture. The following anodyne at night:—

Acet. of morphia, gr. $\frac{1}{4}$; *laurel water*, 3ss; *camphor mixture*, $\mathfrak{z}$ j; *orange syrup*, 3j. Make a draught. To have grapes and oranges.

17. Pulse 120, compressible; respiration has an asthmatic character; bowels opened to-day by cathartic mixture; obviously labouring under bronchitis.

Tartarized antimony, one grain; *mucilage of gum arab.*, four ounces; *orange syrup*, two ounces. A large spoonful occasionally. Continue the anodyne draught. Apply 18 leeches below the wound.

Linseed poultice to the wound. Blister between the shoulders.

18. Respiration greatly relieved after the application of leeches and the action of blister. Pulse 120. Mucus tenacious, troublesome, and expectorated with difficulty. Some nausea from expectorating mixture. Tongue loaded and yellow. Four liquid and bilious stools since yesterday. Urine has presented a deep beer-like colour, and, until to-day, has been scanty. Feeling of tension and pain removed; retraction of lips of wound; some suppuration.

19. Pulse 108, soft; expectorates freely; tongue cleaning at edges; took tea and bread with appetite; urine deep and turbid; wound suppurating profusely; free from tension and soreness; "*fine and easy*," to-day, to use her own expression.

James's powder; *calomel*, of each two grains; *ipecac.*, one grain; *mucilage*, enough to make

a pill; to be taken at once. *Hoffman's fluid ather*, one drachm.

Camphor mixture, five ounces; *carbonate of ammonia*, twelve grains; *ipecac. wine*, two drachms; *orange syrup*, one ounce. A large spoonful, when the cough is violent. Continue anodyne draught.

21. Continued pretty much the same since last report.

Carbonate of ammonia, one grain; *blue pill*, two grains; *ipecac.*, half a grain; mucilage, enough to make a pill. One every four hours.

At the urgent request of patient she is allowed a little veal broth and a glass of beer.

Six leeches had been applied over the lower part of the trachea, and afterwards a blister to the sternum: bowels opened by enema. Can now nearly resume the horizontal posture; wound suppurating freely; motion of ligature during respiration quite obvious. In despite of all entreaties, the patient moves the affected extremity very frequently. The anodyne draught and pectoral mixture to be continued.

23. Pulse somewhat quicker; in other respects as before; appetite improving.

Acetate of morphia, one grain; *Tinct. of digitalis*, one drachm; *Lemon syrup*, one ounce; water, three ounces; two large spoonfuls every three hours.

25. This morning, although positively forbidden, she got out of bed, and walked about the room. Subsequently, at two o'clock, P.M., she would not suffer the nurse to pass the bed-pan under her, but got out of bed; while in the act of doing so, and rising upon her right hand, placed upon the bed, considerable hæmorrhage suddenly set in. Mr. Farnly (now Dr. Farnly, of Dewsbury,) was at that time a resident pupil at the hospital, noted and kindly took charge of the case, turned down the poultice, and thrust a piece of sponge into the wound; nearly a pint of blood had flowed almost in a continued stream over the clavicle, not florid as arterial blood, nor did it come per saltum.

In consultation, it was agreed to remove the sponge, and introduce a fresh piece with a ligature attached. Upon removing the first sponge the coagula formed was sufficient to resist further hæmorrhage, although she breathed laboriously, and coughed several times. The sponge, with the ligature attached, was then pushed a little way beneath the clavicle into the wound, a second piece placed over this, and finally, two or three compresses of lint were bound over both, with a figure of 8 bandage.

27. Four o'clock, P.M. Hæmorrhage did not recur. Oppression and difficulty of breathing, with a quick and compressible pulse, have been present since last report, together with a sense of sinking. Involuntary discharges yesterday; mucous rle

during the day. She expired about this hour without a struggle, retaining her senses to the last.

Post-mortem Appearances about Twenty-four hours after Death.

The accurate report made of this autopsy by my esteemed friend Mr. Ewers, Professor of Anatomy, has been mislaid or lost, so that I am only able to give a mere outline of the whole. The preparation, however, made with this gentleman's usual care and skill, is preserved in the museum of the Royal College of Surgeons in Ireland.

On raising the parts concealing the loop of the ligature some coagulated blood was found in this situation. The surrounding parts were all agglutinated by the effusion of lymph. The subclavian artery, at the site of the ligature, was gaping irregularly for three-fourths of its calibre, the remaining one-fourth sound and retaining the ligature. The right carotid *considerably* enlarged. The aneurysm was found to extend to the anterior scalenus muscle, beneath the clavicle, and between the branches of the brachial plexus of nerves.

Its contents were solid throughout, and laminated. A second aneurism, of the axillary artery, about the size of a large gooseberry, distinct from the former, was situated in the first stage of its course. The innominate was healthy; the arch of the aorta somewhat dilated; heart natural; acute bronchitis of both lungs.

Observations.—A New Plan of Operation suggested.

It is a curious fact, that so many years (24) should have intervened between the taking up of the subclavian artery internally to the scalenus muscle, an operation first performed by Dr. Colles, Ex-professor of Surgery of the College of Surgeons in Dublin, in October, 1811,[†] and the preceding case, the particulars of which I have just detailed; the more so, as the artery was subsequently tied, seven months after, in this city, by Mr. O'Reilly, in *Jervis-street Infirmary*, and although the patient was young, in rude health, an exceedingly favourable subject, yet he was carried off by secondary hæmorrhage supervening on the thirteenth day after the operation. In this case, the ligature had come away; the artery was found fairly divided, and both portions, distal and cardiac, separated two inches, and also patulous, the *cardiac extremity particularly so*. In none of these cases was there such an attempt at the reparative process in the site of the ligature, as to render us sanguine of the result in pursuing this plan of treatment again. In Mr. O'Reilly's case and my own, the disease of the axillary artery would contrain-

[†] See "Ed. Med. and Surg. Jour." Jan. 1835,

dicating the performance of the operation on the distal side of the aneurism. Operations performed upon the subclavian in the outer third have proved successful, although very near the site of the operation internal to the scalenus. Are we to look for the cause of this success in the circumstance of the *impetus of the blood sent from the heart* being taken off by the several branches (viz. vertebral, thyroid-axis, internal mammary, cervicalis profunda, superior intercostal), which come off from the artery at the cardiac side of the ligature?

The want of success that has followed a ligature placed upon the A. innominata, would also go to shew that the impetus of the blood has a great share in disturbing the sanative process set up by nature at the site of the ligature. Under these circumstances, I would suggest the propriety of tying both the common carotid and the subclavian at the *same time*; and the steps of the operation necessary for exposing the latter, will be sufficient for laying bare the former also. A coagulum will soon form, which will extend through the portions of subclavian and carotid on the cardiac side of the ligature, and also through the *whole* of the arteria innominata. The carotid, not having any branch near to the distal side of the ligature, would be more secure than the subclavian; but we have seen that coagulation of the blood in the aneurismal tumours was *not* presented by the reflected supply obtained from the branches intermediate between the ligature and the aneurism; and in three cases, the common carotid of that side was open and *considerably* enlarged. Of course, this plan should be aided by the constitutional and local means known to favour coagulation of the blood in the sac of an aneurism. How favourable has been the termination of operations upon the carotid femoral, and external iliac arteries. In each of these cases, the large vessel (subclavian, profunda, or internal iliac respectively) is at such a distance from the ligature as to permit the formation of a *lengthy* coagulum at the *cardiac* side of the ligature. Were I to operate again upon such a case, I would bind the patient's arm so effectually as to prevent, as much as possible, the motion of the affected extremity. The perverseness and obstinacy of my patient, in this respect, were most deplorable, for she would, in despite of all our entreaties and warnings, move about, perfectly reckless of consequences. The disturbance thus produced must have contributed to prevent the reparative process being fairly established. Such patients should, in my opinion, be placed upon Earl's bed, and rest, as absolute as possible of the whole body, enjoined.

In those cases, the severe and almost intolerable pain endured by the patients (probably owing to the pressure exercised by

the aneurism on the brachial plexus of nerves), renders them anxious to submit to any operation, and, indeed, warrants the surgeon in undertaking what may be esteemed to afford but even a *possible* chance of success. In Moulang's case, the most powerful narcotics had failed to procure even temporary ease. This poor woman frequently declared she would prefer death to lingering out a miserable and painful existence, rendered, each day, more distressing by the aggravation of her sufferings consequent upon the progress of the disease.

Dublin, Sept. 16th, 1837.

PRACTICAL OBSERVATIONS ON THE
EPIDEMIC INFLUENZA,
AS IT APPEARED
IN CHELTENHAM

IN THE BEGINNING OF THE YEAR 1837.

By JAMES M'CABE, M.D., *Cheltenham*.

"Difficile est communia bene dicere."—HORACE.

THE observation of the poet, which I have placed at the head of this paper, applies well to the disease of which I am here about to attempt a description. The epidemic influenza which has so recently extended itself throughout the greater part of Europe, having presented, on its first appearance, the symptoms merely of an ordinary cold, it is, perhaps, the more difficult to convey, in terms sufficiently definite, the essential and characteristic distinction, or difference, between an ordinary cold or catarrh, with its accompanying fever, and the late formidable, and too frequently fatal, epidemic.

To this similarity of symptoms, at the beginning of the attack, may, in a great degree, be attributed whatever mortality was occasioned by the influenza. Elderly persons, who, for years, had been accustomed in the winter season to catarrhal affections, disregarded its first attack, and merely had recourse to their accustomed remedies. The remedies used were frequently stimulant, and the public press too generally lent the sanction of pretended authority, and the contagious stimulus of publicity, to the recommendation of dangerous specifics. A teaspoonful of sweat spirits of nitre, and the same quantity of paregoric elixir, was one of these dangerous specifics, ostentatiously paraded in the public papers as an infallible remedy for the cure of the prevailing epidemic; and the physician, when at length consulted, at, perhaps, an advanced stage of the disease, frequently found that such a dose had been taken night after night, until, at length, the inflammation of the lining membrane of the air-cells of the lungs, which at first had been, probably, merely catarrhal, increased by this strong