A CASE OF ABSCESS IN THE NECK,
WHICH IN ITS COURSE
DESTROYED A LARGE PORTION OF THE CAROTID
ARTERY, JUGULAR VEIN, AND PNEUMO-
GASTRIC NERVE.

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SEVERAL instances of abscesses which in their progress have laid open important vessels have been recorded, but in the case I propose to relate, not only was a considerable portion of the common carotid artery thus destroyed, but also a still larger portion of the internal jugular vein, and a large part of the pneumogastric nerve. I can find no record of such destruction by an abscess as this.

But as even cases in which an abscess in its course has laid open a single large vessel are not of frequent occurrence, I may perhaps be allowed in passing to mention the two following instances, which, as it were, lead up to the principal one.

In the first of these two cases the internal jugular vein was laid open.

Mary Anne Compton, æt. 2, was brought to the surgery

of the hospital on the 10th of February, 1879, with a large abscess in the neck on the left side, below the angle of the jaw, stated to be of a week's duration.

A small incision was made a short distance below and external to the mastoid process. A few drops of pus first escaped, then some blood-clot, followed by a gush of dark blood.

A pad and bandage were applied and some brandy given to restore the child who was very faint and blanched.

On the 12th the child was better, but still very pale. It took food freely; temp. 103° . The wound was dressed; a little dark serum escaped from the orifice.

On the next day—the 13th—the skin around the wound over an area as large as a sixpenny piece had sloughed. The orifice was filled up by blood clot.

At noon hæmorrhage recurred to a small amount; chloroform was given, and then the abscess was laid open freely. The blood-clots which filled the cavity were turned out, and a gush of blood came from the upper part. This was distinctly seen to issue from the internal jugular vein, but the orifice could not be secured. A graduated compress was applied. The child sank two or three hours after the operation.

Post mortem.—The abscess occupied the upper and greater part of the posterior triangle of the neck and extended beneath the upper portion of the sterno-mastoid muscle where the great jugular vein was exposed. The glands in the neighbourhood were much enlarged, some of them suppurating.

Around the upper part of the jugular vein there was considerable inflammatory thickening of the cellular tissue, involving also the pneumogastric nerve, but not the artery. The outer and front aspect of the jugular vein formed part of the wall of the abscess, and an opening was found in the vessel about an inch below its exit from the skull. The orifice had been formed apparently by ulceration of the wall; the edges were ragged and somewhat infiltrated. It measured about two thirds of an inch from above

downwards, and two lines across. Only this spot in the vein had suffered. The coats of the vessel elsewhere, even close to the margins of the aperture, and the internal surface were healthy. No clots were found in the adjacent portions of the vein.¹

In the second case the femoral artery and vein were laid open.

March Smith, æt. 36, fair and muscular, a railway clerk, was admitted into the hospital on December 4th, 1877. In the previous March he contracted gonorrhœa, which was followed by inflammation of the right inguinal glands. This gradually increased, until at length the skin ulcerated and matter had been freely discharged. But he was able throughout to follow his occupation, and gave up work only on the 29th of November, in consequence of a discharge of blood from the openings. Hæmorrhage recurred on the 1st, 2nd, 3rd, and 4th of December. The loss of blood had evidently been considerable. The surface was blanched, the pulse very soft and rapid. Temp. 101·6°. He was restless; almost delirious.

Scarpa's triangle on the right side was filled up by an ill-defined mass of inflamed tissue, in some parts much indurated, in others boggy, in a state of suppuration. The skin over it was very brawny and of a dusky red. There were three sharply-cut openings, each about the size of a sixpenny piece. The bases were level and formed by firm blood-clot. One was about an inch below Poupart's ligament, internal to the vessels. The other two lay in the same horizontal line, and were an inch lower down. The outermost of these was directly over the femoral artery.

The swelling had a clearly distensile pulsation, but there was no decrease of size when pulsation was stopped by pressure on the artery above. A systolic bruit was audible over it. The pulsation in the vessels below was weaker than on the opposite side.

Soon after his admission the external iliac artery was

¹ The preparation is in the museum of St. Bartholomew's Hospital. See Series 13, No. 202.

tied, but the patient never rallied and died of exhaustion a few hours afterwards.

Post mortem.—The orifices above described were the outlets of an abscess cavity, the size of a small orange, formed in the midst of dense fibrous tissues, in the outer portion of which were numerous enlarged glands. The central portion of the cavity was filled by fresh black clot, while its wall was lined by firm laminated and partly decolorised fibrine. Through the floor of this abscess, and in contact with its wall, the great vessels passed. About an inch of the common femoral artery, and an inch of the superficial and profunda arteries, and a corresponding portion of the veins traversed the cavity.

The femoral vein was partly destroyed, so that shortly after it entered the abscess from below it terminated abruptly as if it had been cut across. No clot occupied the canal. About an inch of the tube had been completely destroyed. The upper end was also transversely divided, but here the canal was completely filled and distended by a firm blood-clot, which passed for three or four inches into the external iliac vein.

An opening was found on the inner side of the superficial femoral artery, a quarter of an inch below the origin of the profunda, large enough to admit a goose quill, with ragged edges. Just below this was a second orifice, linear, from one and a half to two lines long. The external coat of the artery had been dissected up by the disease. This was most evident at the upper part where a portion of the outer coat had been raised from the artery till the separation nearly reached the abscess wall. A fragment of the coat was thus left hanging free from the vessel.¹

No disease was discovered elsewhere in the arterial system.

But the case to which I wish especially to call attention is the following one:

Charles Dungate, æt. 31, a house-keeper at the Old

¹ Museum of St. Bartholomew's Hospital, Series 13, No. 204.

Bailey, was brought to the hospital on the 23rd of last March in a state of extreme prostration from hæmorrhage. He could not tell his own story; but the account brought with him was to the effect that for two years he had had a "lump" on the left side of the neck. This appears to have given him very little concern until three days previously, when it suddenly "burst out bleeding." The hæmorrhage was at once controlled with a pad and bandage by a medical man who happened at the time to be in the house on a visit to his wife. On each succeeding day the hæmorrhage had been renewed copiously.

On admission, at 3 p.m., he was carried at once into the operating theatre and, after administration of chloroform, the pads were cautiously removed. Presently a gush of blood came from a large orifice which would easily admit a finger into a considerable cavity filled with clot, at the lower part of the neck on the left side, behind the sterno-mastoid muscle.

Hæmorrhage being controlled with great difficulty by pressure, the opening was enlarged down to the clavicle and somewhat forward by the division of a few of the posterior fibres of the sterno-mastoid. The finger could then be passed behind the muscle, some way upward and a long way downward, in the course of the vessels behind the clavicle. The examination was necessarily hasty and imperfect; for, on the least remission of pressure, hæmorrhage was furious and the man was in imminent danger of dying on the spot. It was supposed that the large cavity was either that of an aneurism or an abscess and as no bleeding orifice could be seen, and there was no space below for the application of a ligature, the cavity was plugged with strips of lint soaked in a solution of perchloride of iron; graduated compresses of lint were applied over it, and the man, who was blanched and exhausted to the last degree, was allowed to remain on the table without disturbance and carefully watched. At 8 o'clock—five hours afterwards—he had so far rallied that he was removed to bed in the adjacent ward.

At 3.30 p.m.—Temp. 102° , pulse 168, very soft, but of fair volume.

6 p.m.—Temp. 103° , pulse 148, improving in power.

10 p.m.—Temp. 99° , pulse 138.

He sweated profusely during the evening and then became conscious. He had taken much milk and brandy since the operation. A sixth of a grain of morphia was injected and he slept fairly well during the night.

March 24th.—10 a.m.—Temp. 100.6° . No return of hæmorrhage.

8 p.m.—Temp. 100° , pulse 120, soft and regular. Restless. Occasional hiccough. Quite conscious during the day.

25th.—10 a.m.—Temp. 99° , pulse 120, equal in the two wrists. No pulse in left facial and superficial temporal arteries. Slept well. Very pale, sallow, and feeble. Slight hiccough. Urine, sp. gr. 1028, acid; loaded with albumen; urates abundant.

8 p.m.—Temp. 100° , pulse 140. Restless.

26th.—Temp. 100.4° , pulse 146. Still hiccough. Complained frequently, by pointing, of pain in the neck. Repeated injections of morphia. He took fluid food freely.

27th.—Temp. 100.8° , pulse 144. Urine still highly albuminous. At 11 p.m. he died. There had been no further hæmorrhage.

Post-mortem.—Body very lean. Skin sallow. No abnormal appearances were noticed in the skull or its contents. Vessels pervious and healthy.

In the neck, on the left side, was a large cavity, external to the sterno-mastoid muscle. This extended from the cricoid cartilage down to the subclavian artery but the vessel was not involved and was healthy.

On dissection, many of the glands of the neck on the left side were found enlarged. Those in the neighbourhood of the cavity were matted to its walls. The common carotid artery entered the cavity from below and terminated one inch and a half from its entrance by a ragged orifice; the

whole calibre of the vessel for about one and a half or two inches having been completely destroyed. The upper end of the artery, about two inches distant, free like the lower, terminated in the cavity by a similar orifice. Both orifices were closed by firm clot.

A portion of the whole calibre of the internal jugular vein was also destroyed, but to a greater extent than the artery. Its upper extremity lay just within the cavity and was firmly closed. The lower extremity could not be clearly defined. The vessels showed no sign of dilatation either within or without the cavity.

The left subclavian and innominate veins appeared to be in part blended with the lower wall of the cavity. All along the line of contact they were impervious; closed by a fibrous tissue.

A large portion of the pneumogastric nerve was also destroyed in its course through the cavity. The two ends of the nerve were found free in the upper and lower part, a portion of the nerve from one to one and a half inches in length being wanting.

The wall of the cavity was from one to two lines in thickness. Its inner surface was very rough and in part irregular. In structure it resembled the wall of an abscess. It had not the characters of any portion of the wall of an artery. Moreover, on dissection, it was evident that there was nowhere direct continuity of structure between the wall of the cavity and that of the artery. In fact, in the preparation they are still shown to be quite distinct.¹ And the portion of artery within the sac possessed all its tissues. (See Plate I.)

At two spots the front of the heart adhered by fibrous tissue to the pericardium. No signs of recent pericarditis. Clots in the heart and vessels voluminous. Muscular substance and valves natural. The aorta just above and in the arch was studded with small atheromatous elevations. In the rest of its course the vessel was tolerably healthy.

¹ In the museum of St. Bartholomew's Hospital, Series 13, No. 210.

Left lung: a small quantity of serous effusion in the pleural cavity without signs of inflammation. Numerous small petechiæ over the visceral pleura. Lung tissue œdematous.

Right lung: some small flakes of recent lymph were found between the lobes. No effusion. Several scattered patches of pneumonia (grey hepatisation) in the upper lobes towards the front.

Liver healthy. Spleen soft and large.

Kidneys congested; rather large. Slight increase of their fibrous tissue. Supra-renal capsules normal.

Stomach and intestines healthy.

Such complete destruction of so large a portion of the artery, vein and nerve, must surely have been the work of at least some, probably of many days, perhaps of some weeks, and yet up to the period of the first hæmorrhage the man appears to have been free from any great amount of distress, and to have been even able to follow his occupation. Neither during life nor after death was there any evidence that the brain materially suffered from the inevitable disturbance of its circulation. Nor was the destruction of the pneumogastric nerve followed by any very obvious effect. During the last two or three days of life the pulse was noted to have been very rapid, but that may be otherwise well explained. The respiration was not remarkably embarrassed, and the left lung, after death, presented no characters that could be especially associated with the lesion of the nerve, certainly none in striking contrast to the right. The absence of more marked and unequivocal effects may perhaps be, in some measure, attributed to the gradual destruction of the nerve; but even in experiments (see those, *e.g.* of Dr. Reid¹) where the influence of one nerve has been suddenly

¹ From numerous experiments Dr. Reid concluded "That lesion of one of the pneumogastriacs does not necessarily or even generally induce disease of the lung of that side;" and this he explained by the free anastomoses between the pulmonary plexuses of the two sides.—'Edinburgh Medical and Surgical Journal,' vol xlix, p. 159.

cut off, the corresponding lung has not always shown the changes which usually follow.

DESCRIPTION OF PLATE I.

Abscess in the neck—(W. S. Savory, F.R.S.).

a a. Carotid artery.

b b. Vagus nerve.

c. Jugular vein.