OVARIOTOMY: PEDICLE SECURED BY SILVER-WIRE LIGATURES: CURE.

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Miss X., aged 58, had enjoyed good health till 1864, when she discovered some enlargement in the left side of the abdomen. In 1866, she saw Dr. Atlee, of Philadelphia, who diagnosed a non-adherent multilocular ovarian tumour; but, as her general health was very good, he wisely advised her to wait a while for an operation. The tumour gradually increased till the abdomen assumed huge proportions; and I saw her in December 1868, and confirmed Dr. Atlee's diagnosis. Her appetite was failing; she did not sleep, except in a semi-erect posture; she vomited occasionally; her pulse was 98; her skin was dry and parched; and she was emaciating very rapidly. I saw her a month later, and her symptoms were then so urgent, that I felt no hesitation in recommending either a tapping, or an operation for the removal of the tumour. She selected the latter; and the operation was performed on the 1st of February last.

Dr. Goodwillie administered Dr. Richardson's new anæsthetic, the bichloride of methylene. She was about twenty minutes coming under its influence, and vomited once just before she was fully narcotised. I was assisted by Dr. Swinburne, Health Officer of the port of New York, by Dr. Sands of Newport, Dr. Meaux of New Orleans, and Drs. Lee and Reed of Staten Island. The incision, about three and a half inches long, was made in the usual way; the walls of the abdomen were loaded with fat, which alone was more than two inches thick. The tumour had slight adhesions anteriorly, over a space of six or eight inches square, which were easily broken up by sweeping a uterine-sound over the surface of the tumour. Five or six large cysts were successfully tapped; then the incision was enlarged upwards for two inches or more, to allow the remaining solid part of the tumour to be extricated. This consisted of small semi-solid cysts so intimately blended together, that the irregular mass, larger than the human head, felt almost as firm as if it had been a real fibroid tumour. The pedicle was short, broad, and thick.

My special object in reporting this case now, is to again call the attention of the profession to my method of dealing with the pedicle. In this case, the walls of the abdomen were so thick, and the pedicle so short, that it would have been impossible to secure the pedicle in the usual way by the clamp externally, even if I had wished to do so. For more than twenty years, I have taught that the best plan of dealing with the pedicle was to secure it with silver-wire ligatures, and drop it back into the pelvic cavity. If the pedicle be small, it is enough to transfix it with a double silver wire, and secure the two halves of the pedicle by firmly twisting the wires on opposite sides. If the pedicle be broad, it requires a number of separate wires, according to its width. In a case of ovariectomy, reported in this JOURNAL in January 1867, the pedicle was five inches wide, and required five separate wire-ligatures; each embracing a separate segment of tissue about an inch wide. In the case here reported, three wire-ligatures were necessary; each enclosing about an inch of tissue. In the former case, the pedicle was first severed by the actual cautery, according to Mr. Baker Brown's plan; and, when the clamp was loosened, blood oozed out all along the cauterised surface. As this was almost in contact with the body of the uterus, there was no other method but to secure the bleeding stump, just as I did it. In this case, the pedicle was held firmly by a pair of suitable forceps; the tumour was then severed and removed. Three separate wire-ligatures were passed through the pedicle as it was held in the forceps; each twisted separately and firmly, just as we do with the wire-sutures in the operation for vesico-vaginal fistula, and with the same apparatus; each twisted end was cut off within a quarter of an inch of the tissue embraced, and then bent flatly over on it. The wires became deeply imbedded in the parts and almost hidden from view. After the ligatures are satisfactorily adjusted, the stump of the pedicle may or may not require a little trimming, when it is allowed to fall gently into the cavity of the pelvis.

This case required eight deep silver-sutures for closing the external wound. I am always careful to pass them so as to embrace the divided edges of the peritoneal coat. A piece of lint, wet with a carbolic lotion, was laid over the wound, and secured by a bandage and a large compress of cotton wadding. The urine was drawn off for three days. There was no constitutional disturbance, and the patient was convalescent from the moment of the operation. There was no vomiting after the operation, as we so often see when chloroform is used. The tumour was multilocular, and weighed sixty-seven pounds and a half. Dr. Swinburne thought its real weight was over seventy pounds; for a

large quantity of fluid was lost in the tapping. One great superiority of this method of securing the pedicle and the abdominal incision is, that we have no trouble with the after-treatment. On the eighth day after the operation, we removed the bandage, and examined the abdominal incision for the first time. There was complete union, and we removed four of the wire-sutures; the others were removed on the following day. The bowels were opened by enema on the seventh day after the operation; and her convalescence progressed without the slightest untoward symptom.

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PROFESSOR HUXLEY'S HUNTERIAN LECTURES ON THE ANATOMY OF THE VERTEBRATA.

Delivered at the Royal College of Surgeons of England.

LECTURE VII.

BEFORE sketching the mode of Development of the Osseous Cranium, it is necessary briefly to refer to certain conditions relating to the appearance of the Sense-organs, and of the leading cerebral nerves, both of which constitute important landmarks in the skull.

The olfactory organs take origin as a depression on the outside of the hinder-part of the fore-brain on each side. The eye, like the olfactory sac, begins as an involution of the external integument. A third depression is placed on each side, behind the cranial flexure, and just above the second visceral arch. Each of the hindmost pair of depressions is soon converted into a short sac, which enlarges, and ultimately becomes the internal ear. The so-called olfactory nerves are really prolongations of the anterior part of the fore-brain. Another pair of prolongations extend out, one on each side, from the hinder-part of the fore-brain, and ultimately become the optic nerve, retina, sclerotic, etc. No similar prolongations grow out to meet the third pair of involutions. Behind these structures, a nervous ganglion sends a nerve down into the first visceral arch, and this nerve is the third division of the fifth. Another nerve (the *portio dura*) passes down more posteriorly, and bifurcates—one branch going to the first visceral arch, the other going to the second one. Another nerve lies still further backward, that which is called the eighth.

The cranium may be said to exist in three conditions: 1. Membranous; 2. Cartilaginous; and 3. Osseous. The first condition persists only in *Amphioxus*; the second condition (commonly spoken of, unfortunately, as the "primordial cranium") is the highest point attained by many of the lower Vertebrata. The third condition is by far the most common; but, probably, in no instance does bone completely replace the other materials, parts of the cranium remaining cartilaginous and membranous even in the highest forms. At that fetal period, when the first visceral arch and naso-frontal process are formed, two masses of cartilage appear, one on each side of the anterior termination of the notochord. Sometimes, as in *Triton*, these take the form of two long rods of cartilage, but generally they coalesce into one cartilaginous mass which surrounds the notochord, at its front end, and thence shoots out into two diverging processes (*trabeculae*), which meet together again further in front, thus enclosing a space where the pituitary body is lodged, and which becomes, ultimately, the floor of the "sella Turcica". After thus meeting, the coalesced trabeculae form a plate, which bends over, forwards, and downwards in the naso-frontal process. The cartilaginous mass, surrounding the notochord, also grows up on each side at the hinder-end of the cranium, and, meeting above, forms thus a ring of cartilage, which is the only spot where the cranium is cartilaginously roofed, all the more anterior part being closed in superiorly by membrane only. Immediately in front of this cartilaginous occipital arch, a large mass of cartilage forms on each side of the skull, which is the auditory capsule; and, in certain forms, two small cartilaginous processes grow up on each side in front of this; but this is the utmost extent of cranial side-wall usually attained by the cartilaginous cranium. Thus the skull has a structure radically distinct from that of the vertebral column. There is, indeed, the occipital arch, somewhat reminding us of a vertebral segment; but, other than this, there is no trace of antero-posterior segmentation by transverse fission; on the contrary, if any division be indicated in the cartilaginous cranium, it is rather into two lateral halves by antero-posterior fission. The plate formed by the anterior coalescence of the trabecular arches over the olfactory capsules on each side, and sends down between them a median cartilaginous plate. From the inner side of each lateral part of the so-arching plate, three processes extend inwards, which, in the osseous skull, become the spongy masses of the ethmoid and the inferior turbinal.