HISTORY OF A
SUCCESSFUL CASE OF OVARIOTOMY.

BY
E. W. DUFFIN, SURGEON.

WITH A DESCRIPTION OF
THE MORBID ANATOMY OF THE SAC.

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ON the 23d of August last, a woman, 38 years of age, and whose general health was in every respect unimpaired, applied to me for the purpose of having an Ovarian Cyst extirpated. The tumour completely filled the abdomen, and in so uniform a manner, that it was impossible to determine in which ovary it was seated; though, from the imperfect history the patient gave of the commencement of her disease, there was reason to believe that the left ovarium was the organ affected. The patient presented the appearance of a woman who had completed her eighth month of pregnancy, and stated that the abdomen had attained this size in the course of seven or eight months; as previous to the early part of the year no visible enlargement of the region existed; nor was she in any way aware that she was the subject of

the tumour in question. The progress of the disease, therefore, seemed to be more than usually rapid, and was, moreover, complicated with frequent and severe attacks of neuralgia in the outer and lower third of the right thigh; caused, as was afterwards proved, by the pressure of the cyst on the corresponding sciatic nerve. The tumour could easily be moved by manipulation of the abdominal parietes; and, so far as could be ascertained by such means, was free from adhesions likely to interfere with its extirpation. The woman was herself very urgent, and impatient to get rid of the disease, though made fully aware by myself and others of the extreme danger that would attend the operation. She was, however, a person of strong nerve, and very determined character; fully impressed, moreover, in her own mind, that the operation would not prove fatal; a circumstance which had great weight in determining me to yield to her solicitations.

On the 27th of the month, the patient took a dose of active purgative medicine, in order to evacuate her bowels very completely, and render it unnecessary to administer any further aperient for several days. On the following afternoon, assisted by Messrs. Fergusson, Ure, and Henry Smith, and in the presence of Dr. Barker, of St. Thomas's Hospital, I proceeded to remove the sac, Dr. Snow having kindly undertaken to administer chloroform beforehand; the temperature of the apartment was raised to about 80° of Fahrenheit.

The patient being placed in a reclining position at the edge of her bed, was supported behind by Mr. Ure, who, by passing his arms round her body, kept up the necessary amount of support by compressing the abdomen on each side with both hands, so as to compensate for the loss of support to the viscera, in proportion as the sac discharged its contents. An incision was made into the abdomen in the course of the *linea alba*, midway between the umbilicus and pubes, but only of sufficient size to admit the forefinger, that the surface of the tumour might be first carefully examined by this means, and its freedom from adhesions likely to frustrate the future steps of the operation ascertained. The tumour

was found to be unattached at all points except its base : here the attachment was extensive, involving the whole length of the broad ligament, which in the course of the disease, as afterwards appeared, had become considerably elongated. The opening in the abdominal parietes was then enlarged by means of a director and bistoury, till the length was nearly three inches. The contents of the sac, amounting to 130 fluid ounces, were then evacuated by means of a trocar introduced at the commencement of the lower third of the tumour. As the thick, viscid, ropy, light brown-coloured fluid escaped, the parietes of the cyst were carefully drawn by a rotary movement through the opening in the abdomen. At this part of the operation some difficulty was experienced in consequence of the sac containing within its parietes a secondary cyst about the size of an ordinary orange, and which was found afterwards to contain rather more than two ounces of the same kind of viscid fluid. This sac, had it been a trifle larger, must of necessity have been perforated by slitting open, to a certain extent, the primary cyst, and again using the trocar. The tumour being now entirely out of the abdomen, was found to be attached at its base, by a neck of an inch and a half, or thereabouts, in length. On examining this carefully, three large arteries and one considerable vein were discovered. Between the roots of these a needle was passed armed with a double ligature, formed of three threads of strong silk, and tied on each side. A general ligature was then passed round the whole neck externally, for greater safety, and the tumour was separated by means of a pair of knife-edged scissors.

Reflecting on the two great causes of death, in unsuccessful cases of Ovariectomy, and the three several periods at which a fatal termination may occur,—viz. either within forty-eight hours, owing to the direct shock of the operation ; a day or two later, from inflammation of the peritoneum arising from wounding this membrane ; or at a still later period, caused, as it appears, on the separation of the slough by putrefactive

decomposition within the peritoneal cavity;—it suggested itself to me, that this latter consequence, as well as the irritation created by the ligature remaining in the abdomen, might be obviated by keeping the tied portion completely out of this cavity. I determined, therefore, to do so, by stitching the cut extremity and ligature in the wound, so as to prevent their receding into the pelvis, and to retain them in that situation till the ligature should come away, and the wound, if it previously closed, reopen to let the slough escape. Had the neck of the cyst been longer, it was my intention to have kept the whole portion included in the ligature entirely *outside the abdominal parietes*, by passing a long needle through it, exterior to the surface; but not being of a length sufficient to admit of this, the above plan was substituted, and I have great satisfaction in saying that it answered every expectation; the wound healing up entirely by the first intention, and afterwards, on the *ninth* day, opening, for the purpose of allowing the ligature and slough to escape on the *fifteenth*; then continuing to suppurate for a few days, till the reopened part finally closed on the twenty-second day. The only objection to this plan was the disagreeable dragging, of which the patient afterwards complained, occasioned by the abdominal parietes being, as it were, tied down to the spine. On the separation of the ligature the abdomen resumed its naturally round contour, and the dragging sensation gradually ceased, disappearing altogether in about a fortnight. Could it have been ascertained with sufficient certainty beforehand, that the seat of disease was the left ovarium, the opening through the abdominal parietes might have been made through the fascia transversalis, at a point more directly over the base of the tumour; the distance between the ligature and external opening would then have been considerably less, and the disagreeable dragging, in all probability, would have been obviated. In the present instance it appears, that the separated end of the neck of the cyst formed no adhesion to the peritoneum, though kept in contact with that membrane during fourteen days; or at least none of sufficient strength

to resist the subsequent elevation of the abdomen, as nothing of the kind could, after that time, be detected ; the intestines having to all appearance resumed their proper situation, and the form of the body its natural roundness. Had the attachment continued, a permanent band crossing the pelvis in an oblique direction would have existed, around which the intestines might have coiled, and become the seat of internal hernia.

Treatment.—Shortly after the patient was put to bed, she took two grains of opium, and passed a good night. The next morning (29th) I found her with a tranquil, soft, regular pulse (76) ; moist, though somewhat white, tongue, the effect of the opium ; perspiring skin, and cheerful countenance ; there was no tenderness of abdomen, and the wound was uniting. To prevent the necessity of her stirring from the position in which she had been placed, the bladder was emptied by means of the catheter, and two grains of opium were again administered, her diet being restricted to tea, bread and butter, and water gruel. She passed the day tranquilly ; sleeping soundly, or dosing the greater part of the time. At night, the urine was again drawn off, and two grains more of opium were given. The same phenomena presented themselves daily, and the same treatment was pursued, till the fifth morning, when she complained a good deal of the dragging uneasiness already alluded to ; the abdomen was somewhat tumid from flatulence, and tender to the touch ; pulse 86, but soft. A copious enema of salt and water was carefully injected, and the bowels by this means being speedily emptied on a sheet doubled and passed under her as she lay, that the position she had preserved since the operation might not in any way be disturbed, the tenderness soon subsided, and in the afternoon I found her as well as on the preceding days. The opium was repeated ; she slept well, and in the morning had not an untoward symptom. The enema was again administered with advantage, and at night the opium. She was now allowed

some chicken broth. Every morning an injection was given; the opiate, however, was discontinued on the seventh night. The wound healed by the first intention; but on the ninth day its lower fourth began to reopen, and discharged fetid matter. On the fifteenth day the ligature and a part of the slough came away. In the course of the following week the remainder of the slough was discharged along with the matter secreted by the edges of the wound; and on the twenty-second day the whole was healed. The enemata were discontinued after the fifteenth day; the patient then rose to the night-chair. On the eighteenth she was able to get up and move about her room, but complained of faintness, which gradually went off as she became accustomed to the change of position. Since the above date she has daily gained strength, and been for some weeks past engaged in her usual occupation, that of a ladies' dressmaker.

DISSECTION OF THE CYST.

BY

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AN Ovarian Cyst, which contained two gallons of thick, viscid, brownish fluid, was removed by Mr. Duffin through an opening in the abdominal parietes, on the 27th of August last. The following is an anatomical description of the walls of this cyst. They are composed of three distinct coats or layers. First, a peritoneal covering; secondly, a middle fibrous coat; and thirdly, a dense membranous sac, in which the fluid had been contained.

At the pedicle or root of the cyst, the peritoneal coat has been divided by an incision an inch and a half in length. The cut ends of three considerable arteries and one large

vein are seen in this opening, and likewise the divided extremity of the fallopian tube. The peritoneum is here thin, and adheres loosely by cellular membrane to the middle coat; but over the whole of the remaining portion of the cyst, the peritoneum is thick, opaque, and adheres firmly to the tissue below. The peritoneal covering of the cyst does not essentially differ from the peritoneum, which invests the pelvic and abdominal viscera, with which it had evidently been continuous. The fallopian tube, about a foot in length, extends from the pedicle or root to the opposite extremity of the cyst, where it is seen terminating in the corpus fimbriatum.

The middle coat of the cyst is thick at the pedicle, and has been separated into several distinct strata or layers, to which numerous branches of arteries are distributed. With these arteries are observed, proceeding to the middle coat, numerous trunks and branches of nerves with ganglionic enlargements. The middle coat becomes thinner as it extends outward from the root to the apex of the cyst, where it presents the appearance of a very dense fibrous membrane, which closely adheres both to the peritoneum and the internal coat of the cyst. In the preparation, these three layers at this extremity are seen entirely separated from one another, and constituting three perfectly distinct structures.

The internal coat of the cyst is firm and thick, and presents on its inner surface a rough, irregular, puckered appearance, which, in some spots, has a brown or yellowish colour. Little difficulty was experienced in detaching the internal from the middle coat at the root, but at the apex they adhered very firmly to one another, as did the middle to the peritoneal coat. The first attempt to divide the internal coat of the cyst into two distinct membranes was not successful; but at the suggestion of Mr. Henry Charles Johnson, on the 8th inst., who then expressed his conviction, that it would be found to consist of two perfectly distinct membranous layers, like the wall of the Graafian vesicle,

I renewed the attempt with the forceps and point of the scissors, while the parts were immersed in rectified alcohol, and succeeded in clearly demonstrating that the inner coat of the cyst is not a simple membrane, but consists of two distinct membranous layers, like the wall of the Graafian vesicle.

Imbedded in the middle coat, near the root, is another and much smaller cyst with a lining membrane, which presents, on the inner surface, precisely the same appearances as those seen on the inner surface of the larger cyst. The lining membrane of this smaller cyst is likewise composed of two distinct layers, like that of the larger cyst and the Graafian vesicle, both before and after the escape of the ovum. From the preparation, it is seen that a thin stratum of the middle coat is interposed between these two cysts, and that they are independent of each other. But the smaller cyst, though not adherent to the outer surface of the larger, has grown so as to encroach on the cavity of the latter, the lining membrane of which smaller cyst has protruded before it. From this dissection it is obvious, that the smaller cyst did not grow from the inner surface of the larger, nor from its outer surface; but that in the progress of development of the smaller cyst, it pushed before it a portion of the lining membrane of the larger, and thus acquired the layer of reflected membrane from the inner coat of the larger cyst by which it is invested.

At the base or root of the great cyst in the middle fibrous coat, between the outer surface of the smaller cyst and peritoneum, there is a group of small multilocular cysts, which contained similar fluid, have all the same structure, and bear the same relation to one another, as the two cysts above described. These multilocular cysts have evidently been formed independently of each other; but in the progress of their growth and enlargement, some of them have encroached upon the cavities of those cysts with which they were contiguous, and in the same mechanical manner have acquired reflected portions of their membranes.

The walls of this Ovarian Cyst, which I have now described, contain all the elementary structures which enter into the composition of the human ovarium in the healthy condition, peritoneum, stroma and Graafian vesicles, with blood-vessels and ganglionic nerves ;—whether all multilocular cysts are formed in the same manner, future observation must determine.