NOTES
ON SO-CALLED
NON-OVARIAN DERMOID ABDOMINAL
TUMOURS.

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THE object of this contribution is to show that many dermoid cysts of the abdomen that have been described as non-ovarian, are really ovarian cysts that have become separated from their pedicles. This is especially the case with regard to cysts of the great omentum. Not that it can be denied that dermoid abdominal cysts may originate independently of the ovary, or that cysts of the great omentum may be non-ovarian, but growths of the former class are very rare, whilst evidence is wanting that primary cysts of the great omentum are ever dermoid.

In October, 1884, a married woman, aged 33, was admitted into the Samaritan Hospital. She had always enjoyed good health. Six years before her admission she noticed something moving about in her abdomen—a lump lying rather to the left of the umbilicus. Since that date she had been pregnant, and the lump had shifted to the right side. The lower part of the abdomen was occupied,

on the right side, by an obscurely fluctuating tumour that extended towards, but not deeply into, the right flank ; it passed only an inch or two beyond the middle line to the left, and did not stretch the abdominal walls between the umbilicus and pubes after the manner of ovarian tumours. There was tympanitic resonance over the tumour, especially towards the right side. The pelvic viscera were quite free from any sign of disease or implication with the tumour.

On October 27th Dr. Bantock operated upon the patient. An incision was made along the outer border of the right rectus abdominis muscle. The surface of the tumour was exposed ; it appeared to be smooth, pale, and slightly shiny. On tapping with a Dieulafoy's aspirator, a pint of fluid resembling pus was drawn off. The tumour was then found to be intimately connected with the great omentum and strongly adherent to the ascending meso-colon. It was not deemed judicious to lay it open before removal, lest the contents, which appeared to be purulent, should escape into the peritoneal cavity. After the tumour had been cut away, the right ovary was drawn up out of the pelvis and found to be quite healthy. The left was not searched for, as there were no direct grounds for suspicion at the time that the tumour might be ovarian. On examining the tumour after the operation it was found to be stuffed with hair, lubricated with sebaceous material. There was no trace of either tube or pedicle. On the inner wall were some plates of bone and a tooth of very anomalous form, somewhat resembling a bicuspid, but tapering almost to a point at its edge.

Both the operator and myself more than suspected after examination of this tumour that it was a cyst of the left ovary. Complete separation of the pedicle of a dermoid cyst is not unknown, and in such cases it is generally to the omentum that the cyst adheres. I have described and figured elsewhere¹ a case under the care of Mr. Thornton

¹ 'Clinical and Pathological Observations on Tumours of the Ovary, Fallopian Tube and Broad Ligament.' Figs. 27, 28.

where an abdominal tumour had existed for seven years, during which period the patient gave birth to four children. At the operation a dermoid cyst was found, closely adherent to the omentum. The left ovary was absent, a short, firm tag of tissue hanging from the omentum close to the Fallopian tube. It is very probable that the former case was of the same kind as the latter, and that many other instances of alleged non-ovarian dermoid cysts should properly be placed under the same category. In the first of the above cases, had the operation been performed many years ago, the ovarian nature of the cyst might never have been suspected, and had the patient recovered, no record of the state of the pelvic organs would have been obtainable. It would probably have been described as a dermoid cyst of the omentum.

A week after the operation in this case, I assisted Dr. Bantock at an ovariectomy where a curious condition of the ovary was detected, which may throw light on an unexpected manner in which dermoid and other ovarian cysts become adherent to the omentum. The patient, who had been under the care of Dr. Amand Routh, was a woman aged 42, the mother of several children. On opening the abdominal cavity, a small, almost unilocular papillomatous cystic tumour of the right ovary was discovered and removed. On examining the great omentum, which was thin and healthy, a soft white body was found adherent to its posterior aspect towards its right free border, almost at the level of the umbilicus. A pedicle about four inches in length was traced to the left angle of the uterus and consisted of a dark red, cylindrical body, which proved to be the Fallopian tube; of a long fibrous cord, the utero-ovarian ligament much hypertrophied; and of some long vessels of small calibre, the ovarian artery and veins. The soft, white body proved to be the left ovary. It contained one dilated follicle, about half an inch in diameter, and was removed, together with the portion of omentum to which it adhered.

It is not easy to understand how this ovary reached

its position behind the omentum, which did not descend unusually low. I know of no previously recorded case where an ovary, not enlarged, had become displaced in this manner. The tumour of the opposite ovary could hardly have dragged it out of the pelvis, for it was not adherent to that tumour. It is also difficult to believe that the tumour could have pushed the ovary up as it enlarged; if a cystic ovary can push up the opposite unenlarged ovary it is singular that this condition is not more frequently seen. This latter argument applies with yet greater force to the theory that pregnancy might have drawn up the left ovary. We do not find ovaries drawn up in this manner in women who have borne children. It is probable that in the case under consideration the ovarian ligament and tube were congenitally of abnormal length, and that the ovary had become displaced from some peculiar habitual position of the patient.

In some previously recorded examples of cysts adherent to the omentum, it is possible that the ovary had become adherent before developing cystic disease. The stretched tube and ovarian ligament would in such a case be very prone to atrophy, and the tumour would then of necessity receive its vascular supply from the omentum. I do not, however, believe that a tumour can increase after torsion of its pedicle. Freund has rightly questioned the possibility of adhesions supplying sufficient blood to a non-malignant tumour, so as to enable it to continue to enlarge when separated from its original channels of supply.¹ In these adhesions, except when the tumour is malignant, the veins greatly exceed the arteries in size and number. Occasional increase in the bulk of the tumour is due to congestion or intracystic hæmorrhage.

I now come to the main argument suggested by the above cases, which is, that many cases of dermoid cyst of the abdomen recorded as non-ovarian were probably ovarian dermoid cysts that had become adherent to the

¹ "Extra-uterine Gestation," 'Edinburgh Medical Journal,' September November, and December, 1883.

omentum or to other structures, and separated from their pedicles. This cannot always be the case, for dermoid abdominal tumours have been met with in males, and none of the foetal relics of the female type persistent in the male could possibly adhere to the omentum and break off their pedicles, even if they did become subject to dermoid cystic disease. Thus in Dr. Ord's case¹ the dermoid cyst found between the bladder and rectum of a man, might and probably did arise from a foetal relic, but it had no pedicle and could not have become detached from its pelvic connections. Turning to Lebert's original article on dermoid cysts,² where clinical details are more complete than in his later observations on the subject in the '*Traité d'Anatomie Pathologique*,' I find that there is strong reason to doubt that all of the cases he describes as non-ovarian had no connection with the ovary.

The cases of dermoid cysts in the testis, brain, facial structures and thorax, as well as of similar cysts in the liver, stomach, diaphragm, &c., in males may be set aside at present. One case of dermoid cyst in the liver of a woman might have been an instance of adhesion of a dermoid ovarian cyst to that organ; still the hepatic origin of the cyst is more probable. Several cases of dermoid cyst of the uterus are described by Lebert. The first was originally noted by Fabricius Hildanus, but Lebert states that there was some doubt as to the precise seat of the tumour, anatomical details being very incompletely recorded. The same authority mentions cases of dermoid tumour of the uterus described by Samson, Birch, Tyson, and Osiander, but they all appear to be based on the evidence of hair and teeth passed during or after labour, and it is most probable that all, including Hildanus's, were instances of ovarian growths acquiring connections with the uterus and upper part of the vagina, with subsequent communication between their cavities.

¹ "An Account of a large Dermoid Cyst found in the Abdomen of a Man," '*Med.-Chir. Trans.*,' vol. lxi, 1880.

² "Des Kystes Dermoides et de l'Hétérotopie Plastique en Général," '*Gazette Médicale de Paris*,' 1852.

Turning to three cases quoted by Lebert as examples of non-ovarian dermoid cysts of the abdomen in women, where the tumour was attached to the peritoneum, the evidence that they were truly non-ovarian is generally defective. I put aside several other cases where the dermoid cyst was developed between the uterus and rectum, not only because the origin of the tumour in such cases is obscure, but chiefly because these cases do not bear directly on the subject of the present communication. I find that Ruysch has recorded a case of dermoid cyst of the great omentum, but there is no evidence that the cyst was non-ovarian. Andral describes a case of dermoid cyst growing between the layers of the mesentery of a negress, but makes no mention of the state of the ovaries. Peritoneal relations become so confused, in many cases of abdominal tumour, as to deceive experienced anatomists. Schutzer has described a case of dermoid cyst of the mesentery in a girl aged 15, but this appeared to be an instance of included foetation, as parts of a skeleton were found. Scortinagna notes a case of dermoid cyst of the peritoneum discharging for five years through an abdominal fistula, but there is no mention of the ovaries. Besides, before the possibility of separation of a pedicle was recognised, the stump of the pedicle might have been taken for an atrophied ovary. A case of dentigerous cyst of the omentum in a young girl, described by Laflize and Bucher, occurred in 1763, and here again the state of the pelvic viscera is unnoticed.

The last case of this kind in Lebert's series is remarkable. A woman over forty years of age had been for several years under the treatment of Dr. Roux, in the South of France. A large abdominal tumour extended from the stomach to the bladder. The patient died suddenly. Beneath the great curvature of the stomach a large cyst was found. On each side a "broad peritoneal fold" fixed it to the small intestines. It was separated from the bladder by a smaller cyst, the size and shape of a pear. The tumours were dermoid. No mention is made of the

ovaries, nor of the great omentum; indeed, it seems probable that the large cyst lay in the omentum. The necropsy was made "by a doctor from St. Maximin," and the account of the examination was written and sent to Dr. Roux by a veterinary surgeon who was present on the occasion.

Such are the cases recorded by Lebert, whom I find constantly quoted as an authority in contemporary literature on the subject of dermoid cysts. It is to be remembered that of late years, since ovarian pathology has been more extensively studied, and since surgeons have made a rule of carefully searching the pelvic viscera when performing abdominal section, we have not heard of non-ovarian abdominal dermoid cysts in women. From the evidence of cases collected by Lebert, as compared with the specimens¹ upon which this paper is based, I am inclined to think, as I have already declared, firstly, that non-ovarian dermoid tumours within the abdominal cavity are extremely rare, but do occur, the chief proof being their occasional presence in male patients; and secondly, that the great majority of dermoid cysts described as non-ovarian are examples of tumours that were of ovarian origin, but had become adherent to other structures and then had separated from their pedicles. Dermoid cysts of the great omentum are especially doubtful in this respect, and no museum specimen of such a disease can be safely held up as an example of a dermoid tumour springing primarily from the omentum, unless there be very clear evidence that the pelvic viscera have been carefully searched, and both ovaries accounted for.

¹ These specimens are preserved in the Museum of the Royal College of Surgeons of England, Pathological Series, Subseries Diseases of the Ovaries.

(For report of the discussion on this paper, see 'Proceedings of the Royal Medical and Chirurgical Society,' New Series, vol. i, p. 433.)