

Broad ligament cysts above the Fallopian tube / by Alban Doran.

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Broad ligament cysts above the Fallopian tube.

By ALBAN DORAN.

See Handley

IN former communications to the 'Transactions' of this Society, I have endeavoured to determine, after the examination of a large series of specimens, the origin of the different varieties of cystic tumour which grow in the uterine appendages. The common multilocular ovarian cyst originates in the stroma of the parenchyma of the ovary,¹ probably from morbid changes in Graafian follicles undergoing retrograde processes of development. This kind of tumour often bears adenomatous intracystic growths. The large papillomatous cysts of the ovary and broad ligament arise sometimes from the vertical tubes of the parovarium, most frequently from the tissue of the hilum of the ovary, and in rare instances from those relics of the Wolffian body which stray into the parenchyma of the ovary.² They are, in fact, essentially products of the Wolffian tubes, whether parovarian or ovarian.

On the other hand, I have expressed strong doubts as to the parovarian origin of the thin-walled cystic tumour of the broad ligament, which has for long been known as the "parovarian cyst."³ I shall refer to some of the evidence which I have previously collected, after describing the specimen which I now exhibit (Museum Royal College of Surgeons, Pathological Series, No. 4583).

It consists of the Fallopian tube and broad ligament formerly attached to a large multilocular ovarian cyst, which was removed by Mr. Knowsley Thornton in October, 1884, from a woman aged 40. Between the two layers of the broad ligament is an oval thin-walled cyst, half an inch in diameter. Under the broad ligament along its line of reflexion over the Fallopian tube, is a similar, but somewhat smaller cyst. When fresh, both were transparent (see woodcut).

There can be little doubt that these two cysts are identical in their origin, which is from the connective tissue in the broad ligament. That peritoneal fold is often infested with minute thin-walled cysts, both below and above the tube; these cysts being lined with a single layer of flattened cells, resembling endothelium.

¹ 'Trans. Path. Soc.,' vol. xxxiii, p. 207.

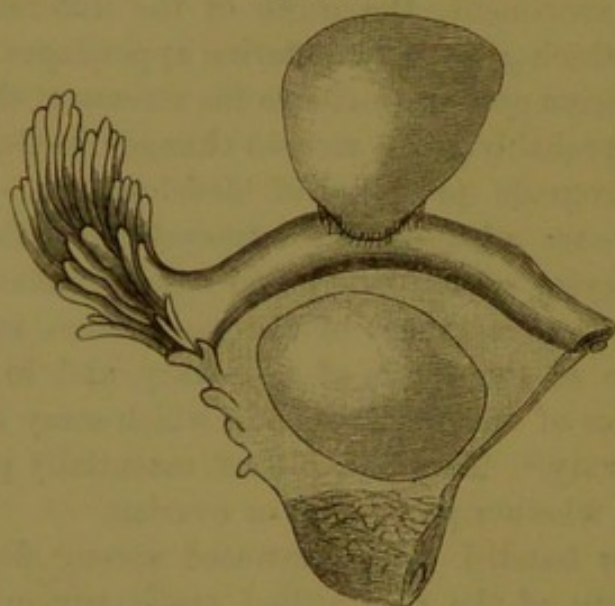
² Ibid., loc. cit., and also vol. xxxii, p. 147.

³ Ibid., vol. xxxiv, p. 169.

When the cysts are larger, the lining is identical.¹ The larger thin-walled cysts are very common below the tube, whilst above it they are practically unknown.²

There are reasons, seemingly plain, why cysts above the tube do not grow large. The connective tissue between the tube and the serous membrane reflected over it is dense in texture, yet scanty, that

WOODCUT.



Broad ligament cyst above the Fallopian tube. A similar cyst lies below the tube, in the folds of the broad ligament, in the region where so called "parovarian tumours" are developed. (From a sketch by A. Doran).

between the folds of the broad ligament below the tube is looser and more abundant. For this reason, whilst the layers of the broad ligament may be pulled apart very easily below the tube, it requires more force to strip the ligament off the tube itself. The ease with which ovarian growths may insinuate themselves between these folds is well known. Above the tube, moreover, the blood supply is

¹ 'Trans. Path. Soc.,' vol. xxxiv, p. 174.

² In no case have I ever found the slightest evidence that such cysts might be developed from the Fallopian tube itself, see 'Trans.,' vol. xxxv, p. 249. In the case there described, "the broad ligament has been dissected away from one side of the cyst, which is separated from the tube by a thin layer of connective tissue." This condition I have found to be invariable, that is to say, the cyst is always separated from the tube by connective tissue. The solid button-like projection sometimes seen on the upper aspect of the tube is perfectly different in character from these cysts, and is a malformation, not a tumour; see "Dissection of the Genito-urinary Organs in a Case of Fissure of the Abdominal Walls," 'Journal of Anatomy and Physiology,' vol. xv, 1881.

relatively scanty, whilst below it large branches of the uterine and ovarian artery inosculate freely between the layers of the broad ligament. In this respect there is a resemblance between broad ligament cysts and thin-walled cysts of similar character in other parts of the peritoneum. The large omental cysts form amidst arteries of considerable size; mesenteric cysts also grow amongst large blood-vessels, generally in the posterior part of the mesentery near its attachment, where there is abundance of connective tissue between its folds. Thus these cysts develop under conditions which also exist in the case of broad ligament cysts growing below the tube. On the other hand, cysts, nearly always minute, are frequently seen under the serous coat of the small intestine opposite the attachment of the mesentery.¹ There the subserous connective tissue is much scantier than between the layers of the mesentery, and there are none of the large vessels which permeate the great omentum. Thus they may be compared to broad ligament cysts above the tube.

Not only are cysts checked in their growth when they are developed above the tube, but secondary solid deposits never attain a large size when they form there. I exhibit this evening a specimen of sarcomatous deposit under the broad ligament above the tube, from a case of sarcoma of the ovary and broad ligament removed by Sir Spencer Wells last summer. I have never observed a similar deposit as large as this in the same situation, although I have seen sarcomatous nodules over two inches in diameter between the layers of the broad ligament below the tube, independently of the large primary tumours which force themselves between those layers.

Do broad ligament cysts above the tubes ever become large, that is to say, as large as the average broad ligament cyst mis-called, in my opinion, "parovarian?" There is little, if any, evidence to support this supposition. Puzzling cases have been recorded of cysts, pelvic in origin, that burrow under the peritoneum above the level of the pelvis. Some of these cases might have been broad ligament cysts developed above the Fallopian tube, in which case

¹ In No. 293, Path. Series, Museum Royal College of Surgeons, one of Hunter's well-known specimens of "Cysts containing air," the cysts around the attachment of the mesentery to the intestine are much larger than those which lie under the serous coat of the intestine far from the mesentery. For that reason I exhibit this evening the specimen immortalised in Sir J. Paget's 'Lectures on Surgical Pathology.'

the "burrowing" theory would not be strictly correct. The absence of the tube, a conspicuous object on the surface of an ordinary broad ligament cyst, would mislead the operator to whom even the normal folds of peritoneum are often sources of confusion. Such cases could only be proved by careful dissection¹ and the demonstration of specimens, and of this I can find no record.

The essence of my proposition is that thin-walled cysts may grow within the connective tissue of the broad ligament above or below the Fallopian tube. When they grow below, they may become very large, forming the so-called "parovarian" tumour, when above they nearly always remain minute. Their identity is, in any case, evident, and from this it follows that the thin-walled cyst below the tube cannot be invariably, if even as a rule, parovarian,² since, in the first place as most pertinent to the subject of this memoir, the cyst above the tube lies far from the parovarium. For other reasons which I have brought forward in favour of this theory I must once more refer to my paper on "Incipient Cystic Disease of the Parovarium and Broad Ligament" in the thirty-fourth volume of our Society's 'Transactions.' There I spoke of thin-walled cysts which may be seen by the naked eye to be entirely distinct from the parovarium; of the question of the epithelial lining of these cysts; of the relation of these cysts to the hydatid of Morgagni; of the occasional truly parovarian origin of the cysts; and lastly of the usual character of cysts which are really developed from the vertical tubes of the parovarium and from Gartner's³ duct.

The parovarium is a somewhat showy structure, and it is quite natural that it should have been taken for the origin of the thin-walled cysts so abundant in the broad ligament. But in pathology proximity does not always imply origin, as the above arguments will, I believe, demonstrate.

¹ Even when there is an opportunity of dissection, that is to say, when the patient dies after the operation, the true nature of the case may be entirely concealed by pathological changes subsequent to abdominal section, and by the mutilated condition of the parts, which defeat any attempt to prove their relations.

² This applies, of course, to many cysts in the broad ligament of animals, as described in Mr. J. B. Sutton's valuable paper in the 'Transactions,' vol. xxxvi.

³ In common with many British or even German writers, I have, till recently, written this surname incorrectly, as though it were German and not Danish. Gartner's theories first appeared in 'Anatomisk Beskrivelse over et ved nogle Dyr-Arter Uterus undersøgt Glandulöst Organ,' Copenhagen, 1822.

Several of the outermost vertical canals of the parovarium end, as a rule, in blind extremities, instead of running into the hilum of the ovary. These extremities are often dilated into minute cysts, more or less pedunculated, and generally assuming an ovoid form, like the fruit of a berberry. These cysts of Kobelt's tubes, as the outer vertical tubes of the parovarian are termed,¹ appear to me to be quite distinct from the common thin-walled cyst of the broad ligament. In this respect the same arguments apply to them as to the other parovarian tubes. The cyst developed close under the ovarian fimbria of the Fallopian tube ('Transactions,' vol. xxxiv, Pl. XI, fig. 5) might, at first sight, appear to be a result of dilatation of one of Kobelt's tubes, but I have found that it generally commences near the root of the fimbria high above and external to the parovarium. In other cases it arises as a cyst developed in the connective tissue of the broad ligament close behind the junction of the point of the fimbria with the outer extremity of the ovary. I do not mean, however, to lay down a law that a large cyst cannot be developed, in exceptional cases, from a Kobelt's tube.

The cystoid dilatations which often completely disfigure the broad ligaments in cases of uterine myoma, are perfectly distinct from true broad ligament cysts. These dilatations are the "*Kystes lacuneux*" or "*hygromes sous-sereux*" of Verneuil. They often exist side by side with true cysts which they conceal; but when the parts are removed by operation they rapidly disappear through draining away of their serum. The true broad ligament cysts then come into view. I have repeatedly observed this condition when assisting my colleagues at the removal of uterine tumours.

October 20th, 1885.

NOTE.—Since the completion of this paper my attention has been called to an article in the '*Archiv für Gynäkologie*,' vol. xxvi, part 3 (1885), by Dr. Gustav Killian, entitled '*Zur Anatomie der Parovarialcysten*.' The author comes to the following conclusion: "In order to identify the parovarian origin of a cyst, it is important to determine not so much its anatomical structure as its position in relation to the tube and ovary." In relation to my contribution in

¹ '*Der Neben-Eierstock des Weibes*,' 1847. At p. 15 is a good description of these outer tubes, with a drawing (Taf. i, fig. 3*b*) which has been repeatedly copied in text-books. It does not represent a constant condition. These outer tubes may be highly developed, or obliterated, or cystic.

the thirty-fourth volume of the 'Transactions,' Dr. Killian courteously observed in a letter, which I received in October, 1885: "Dass ich dieselben bei Abfassung meiner Monographie nicht gekannt habe, bedauere ich sehr; denn ich hätte jedenfalls meine Theorie etwas modificirt, namentlich aber der Entstehungsgeschichte der Cysten des ligamentum latum genauere Untersuchungen gewidmet, eine Aufgabe, die ich mir damals auf spätere Zeit verschob da mir im Augenblick nicht Material genug zur Verfügung stand."