

arising from the tubules of Pflüger, my belief is that all ovarian cystomata have their origin in follicular dropsy.

I have failed to find any description of a cartilaginous growth of the ovary apart from cystic alteration, but I have twice found plates of cartilage in the walls of ovarian cysts, and in neither of these tumors were there any other structures which might place them in the category of dermoid cysts. The cartilage was composed of large cells with very little fibrous matrix; in fact, it was hyaline cartilage, identical with what I have seen repeatedly in the testicle. There is, of course, no good reason why enchondromatous tumors should not be met with in the ovary, just as they are in the testicle; but in the latter organ they occur independently of cystic degeneration, while I am not aware that they ever have done so in the ovary.

Fibromatous tumors of the ovary must be very rare, for I have only met with three cases, and one which was clearly malignant. Growth of the fibrous stroma of the ovary, so as to form a large abdominal tumor requiring removal, has not yet been described, so far as I have been able to discover; and under any circumstances the condition is a rare one, for Peaslee has collected only seven cases, including two which he had seen himself, and Atlee describes another which probably was of this nature, though unfortunately no microscopic examination of it has been recorded. I think that if I had a similar opportunity now of examining such a preparation, I should be able to give a much better account of it, for I suspect that the reason of its malignancy would be capable of explanation by reversion to an immature form of growth of the cells of the ovarian stroma, analogous to that of the cystic epithelium.

The patient in whom occurred the first of the tumors I am about to describe was forty-four years of age, was very stout, had borne six children, and had been failing in health, owing to the increasing size of her abdomen, for about two years. She was sent to me by Dr. Vinrace in July, 1873, when I found the abdomen occupied by a large quantity of ascitic fluid, in which floated a large and perfectly solid tumor. The abdominal walls were also very œdematous. I tapped the abdomen and punctured the skin repeatedly with a lancet to get quit of the anasarca. This was repeated several times, until it was evident that only the removal of the tumor, which I had diagnosed to be solid ovarian, would permanently benefit the patient. When the abdomen was opened, it was found necessary to extend the incision eight centimetres above the umbilicus, in all nearly twenty-five centimetres, before the tumor could be removed. It had an adhesion to a coil of intestine, and a very extensive adhesion to the great omen-

tum, and it occupied exactly the relations of the left ovary, the other being perfectly healthy. Its pedicle was clamped, and the wound closed in the usual way. The patient died on the fifth day, as was usual when the clamp was employed. The tumor was round, smooth, and of a creamy white color, and it weighed almost nine pounds. When cut into, it had a glistening, white, and trabeculated structure; and it was perfectly solid throughout, there being no indication anywhere of cystic formation. A number of very thin sections were made, and these were treated by various processes, their uniform result being to show that the tumor really was the ovary, and that its overgrowth was limited to the fibrous stroma. The fibres were ranged in bands which crossed in all directions, and treatment by acetic acid showed that a few of these bands, or perhaps I should say a very few, were composed of muscular fibres, an observation which substantiates that of Sangali, quoted by Virchow, made in a similar but much smaller tumor. Looking at my sections of this tumor, made nearly ten years ago by the rough processes in use before I had introduced the method of cutting sections of fresh frozen tissue, I cannot make out very much more now, but I feel nearly satisfied that these fibres are but the result of immature fibre-cell growth running to riot. Throughout the tumor, but chiefly toward its surface, a number of minute cavities were observed, lined by epithelium, and having in one or two instances a large cell with a nucleus, presenting all the appearances of an ovum. The number of these cavities in a less pronounced condition was very large, and I have no doubt they were immature Graafian follicles. I have, within the last few days, removed an exactly similar tumor of smaller size. The pedicle was ligatured, and the patient recovered as usual without any difficulty.

A Microscopical Committee of the Philadelphia County Medical Society reported as follows on a tumor of a similar kind, submitted to them by Dr. Washington L. Atlee, and which he had successfully removed in 1876:

"Thin sections from both the fresh tumors and from hardened preparations exhibited a dense, fibrous-looking stroma, in which the spindle-cells apparently constituted but a small portion, the large majority having, it seemed, been developed into the fully formed fibrous tissue which gave its firm, dense character to the growth. The application of diluted acetic acid brought into view small oval nuclei, arranged with considerable regularity in the section, and which, even under a high power (1,250 diameters), displayed none of the double, triple, and multiple character commonly met with in neoplasmata of the more malignant type.

"Your committee, therefore, conclude that these two ovarian



tumors are the spindle-celled sarcomata of Wagner, Virchow, Rindfleisch, and other late German pathologists, and accurately correspond with those described by Rokitansky as 'Fibrous Cancer,' and by Paget under the name of 'hard cancer with fibrous structure.'

"According to Rokitansky, ovarian growths of this character occur very rarely, and Scanzoni states that these 'fibrous bodies' of the ovary had, to his knowledge, only been proved to exist in four cases, up to the time his work was revised, in 1858."

I have never met with that rare variety of fibroma of the ovary, of which only three instances have been described—two by Rokitansky and one by Klob—and in which small fibrous growths arise from the corpus luteum.

In the "Transactions of the Obstetrical Society of London," for 1874, Dr. Goodhart relates a case of fibroma of the ovary, probably of this kind, in a woman aged forty-two, who died from granular disease of the kidneys. She had several fibrous tumors in the uterine wall, etc., as well as one in the ovary, which was about one and one-half inch in diameter. The relations of the tumor were accurately determined. It grew directly from the free or epithelial surface of the organ, and had no connection with the broad ligament. On section it was shown to spring from the outer layer of the ovarian stroma—that part characterized as "tunica albuginea" by old writers, and as the condensed external layer of the proper ovarian stroma by Waldeyer.

The case of malignant fibroma was one which I saw in October, 1869, in consultation with Dr. Hollings, of Wakefield. She had a large oval tumor, solid, hard, and smooth, moving freely in the abdomen, centrally situated, with a similar smaller one to the right side. The larger tumor reached about two inches above the umbilicus, could be felt high in the pelvis, and had an attachment to the uterus. I diagnosed it as a case of solid cancer of the ovary, and declined to operate. The abdomen was free from ascites or other complication. I saw her a second time in a few weeks, and found that the tumors had both increased in size, and then, having made myself more familiar with the subject, I gave it as my opinion that it was an instance of the rarest of all forms of cancer—the fibroid. On December 5th I found her with symptoms of peritonitis, and a considerable effusion of ascitic fluid. I tapped her, to relieve the breathing, and found a large, soft, semi-fluctuating mass extending from near the xiphoid cartilage to within three inches of the pubis, masking the outlines of the tumors. This I recognized as possibly a fungoid growth of the omentum. I tapped her again on the 9th, and she died next day. Twenty-four hours after death I examined the body,

and, on opening the abdomen, I found adhesions everywhere to the large, deep-colored fungous mass which I had correctly regarded as growing from the omentum. It was adherent behind to the intestines and to the tumors. The larger of these latter was found to be perfectly loose, save from the omental mass and the right corner of the uterus, to which it was attached by a short, thick pedicle; in fact, it was the right ovary, as no other trace of the gland could be found. The smaller tumor was similarly the left ovary, and a still smaller tumor seemed to grow from the same pedicle. Scattered over the surface of the peritoneum were patches very similar to those previously described as papillary cancer of the peritoneum. These patches were also found on the surfaces of the tumors, and were stripped easily off with their investing epithelial coverings. In the right or largest tumor were a few cavities containing fluid, and also some curious cretification at the base and in the pedicle. It weighed probably twelve or thirteen pounds, so that I could not remove it conveniently for preservation. I removed and carefully examined the smaller tumors, some peritoneum, with specimens of the patches and a piece of the omental fungus.

In the piece of omentum nothing but blood-detritus, a few scant fibres, and numbers of irregular cells were found, with immense numbers of free nuclei, or what seemed to be such. The nodules on the peritoneum showed all the characters of cancerous tissue, being composed of large, irregularly shaped and irregularly sized cells, containing variously shaped nuclei in varying numbers. There seemed to be no fibrous tissue in them at all, and their elements readily separated by gentle pressure between the cover and the glass slide. A careful section showed the epithelium of the free surface of the peritoneal layer to be undergoing interesting changes. The cells of the upper layer were normal, but at two or three layers' depth they were seen to be larger, more irregular, and the number of nuclei increased, the latter fact being most clearly displayed on the addition of acetic acid.

The ovarian tumors removed were ovoid, smooth, and glistening, and here and there the surfaces were marked with the peculiar patches above described. Together, they weighed nearly three pounds. When cut into, no juice exuded from them, and the scant moisture scraped from the cut surface showed no cells. The tissue was pearly white and very tough. Teasing with needles did not give any satisfactory results, and a great many sections had to be made before one thin enough for examination was obtained. I then found that the texture was purely fibrous, there being nowhere, under the epithelial



layers, any cells discoverable. The fibres were extremely fine, closely and regularly packed, without any appearance of undulation or interweaving, but seemed to lie parallel, with only faint curvings in their general direction. They were readily stained by carmine. Acetic acid showed no nuclei, and did not influence the fibres beyond a slight clearing of the section. The tumors differed quite from those already described as fibroma, which do not seem to be malignant.

It will be found that this description differs in some important particulars from that given by Sir James Paget of similar structures, especially in the absence of nuclei; but the rarity of opportunities for the examination of such peculiar growths stands much in the way of their proper investigation; and now we have much better methods of examining such growths, so that future experience will give far more precise results.<sup>1</sup>

Among all the tumors I have examined I have never seen any of the so-called osteomata; indeed it is greatly to be doubted if any true osteoma has ever been found in the ovary, except as part of a dermoid cyst. All the others, of which I have seen descriptions, are evidently only instances of cretification.

This form of change has been very carefully studied by De Sinéty and Melassez, and they summarize their conclusions as follows:

It is presented in two forms, of which the first and more simple consists of a deposit of small calcareous grains in the connective substance. Occasionally these appear deposited in the interstices of two lamellæ or two connective fasciculi, in the place occupied by the connective cells; but that is only an appearance due to the calcification having commenced upon one of the faces of the lamella or connective fasciculus. These little grains of calcification are sometimes isolated, and sometimes united in a band. This form rarely exists alone; it is habitually met with associated with the second, of which it appears to be the origin.

The second form consists of more or less extensive patches, disposed parallel to the cystic surface. As we have already said, there usually exists a layer of connective tissue between them and the cystic cavity. Their internal or cystic surface is generally smooth, and forms, upon sections, a rectilinear line; while the external or deep face, and especially the extremities, are irregular, and present excrescences or depressions. The excrescences have almost always a rounded, semi-spherical form, as if due to the addition of little calcareous grains to the princi-

<sup>1</sup> Wilson Fox has noticed these degenerations of vegetations (loc. cit., p. 268).

pal mass. The depressions are in the form of cupolæ, rather like those presented by bones attacked with atrophic osteitis; they are sometimes situated in the interior of the calcareous patch, and there form very irregular anfractuosités. In the substance of the patch may be discovered, further, the disposition of the lamellæ and connective fasciculi, fine striæ indicating the place occupied by the connective cells now destroyed.

Besides the formation of cystoma of the ovary from simple distention of the Graafian follicle by an excess of its proper fluid, Rokitansky and Arthur Farre long since drew attention to the formation of ovarian cysts by hemorrhage into the cavity of the follicle. In his classic article on the ovary in the "Encyclopedia of Anatomy and Physiology," Dr. Farre figures and describes such a cyst as having "its cavity filled with loose flocculi, of a dark chocolate color, consisting of decomposed blood-clot mixed with patches of membrana granulosa. The walls of the follicle were not yellow, and contained no oil-globules, and they were slightly thicker than those of the healthy follicle." Their component tissues were precisely those he describes as characterizing the ovisac in its normal condition, and the main bulk of its structure was made up of granules and embryonic fibres, intermixed with a few developed fibres of ordinary white fibrous tissue. He considers it to constitute one of the early stages of these enormous growths, forming an ordinary cystoma of the ovary.

Rokitansky regards these cysts as being due to a cystic degeneration of the corpus luteum. He says they may exceed the size of a walnut, that their interior surface is wrinkled, and their exterior limit is easily recognized.

Cruveilhier speaks of ovarian hæmatic cysts as a consequence of an apoplexy of the ovary, and as a probable consequence of an exaggeration of the small clot of blood produced in the ovary at the rupture of an ovisac. These he says are often transformed into perfectly organized serous cysts, of which the origin is sometimes of very doubtful determination, though it may be revealed by fibrous concretions within them or by the orange yellow coloration of their walls. The largest he had seen was in the ovary of an old woman, in which the cyst was filled with a dark brown matter having the consistence and color of water chocolate. The walls of the cyst were greatly injected and were patched with red, being infiltrated with blood in their thickness, but otherwise they presented the usual appearances of the structure of the tunic of the ovisac.

De Sinéty and Melassez have made similar observations, and I can substantiate all that these observers have noticed in



connection with the production of small-sized cysts from what may be described as an apoplexy of the ovisac. I have no doubt at all that they are the result of excessive hemorrhage into the cavity, occurring either at the time of its rupture for the discharge of the ovum, or perhaps occurring when the ovum was not discharged as it ought to have been. In one case I removed a tumor of this kind on account of persistent and intractable uterine hemorrhage. Before the operation, which was performed in 1873, I regarded the patient as suffering from hemorrhage due to a uterine myoma, but when I opened the abdomen I found it was a true ovarian tumor, consisting of one large cyst, and at its base a few small cavities. The large cyst contained a dark purple material of the consistence of putty, which was evidently the remains of blood-clot, the serum of which had been absorbed; and this material dried into a brittle substance, exactly as blood-clot does. The removal of the tumor arrested the uterine hemorrhage completely, and the patient made an excellent and permanent recovery. Unfortunately at that time I was not so conversant with the facts of ovarian pathology as I now am, and the tumor was not properly examined, and the only note which I possess of its appearance, beyond what I have already described, is that on its inner surface there was a large patch having an appearance as if it were ulcerated, and that this spot probably was the source of the hemorrhage. Upon this ulcerated surface there was no appearance of an epithelial layer. Before any conclusion of value can be given from these cases some similar experiences would have to be more carefully investigated, but I am strongly of the belief that this tumor was an example of Rokitansky's hæmatic cyst, which had reached a size and an importance which those structures do not usually possess.

I think that Arthur Farre's view is probably correct, and that when follicular dropsy begins as an apoplexy this character is maintained for only a short time in its history, and that its after-course is that of an ordinary cystoma. It is quite likely, however, that an occasional instance will be met with where the distention is due to recurrent hemorrhage, and of this I think my case was probably an example. I cannot pretend, however, to explain why this should be accompanied by the terrible uterine hemorrhage from which my patient suffered; still less can I see why the removal of the tumor should completely arrest this symptom.

The tubules of which the parovarium is made up, frequently contain a perceptible amount of fluid, and I have repeatedly seen them accidentally in post-mortem examinations, distended to

the size of beans or filbert-nuts, and have disregarded them as "Wolffian sacs," of no pathological importance. Some years ago I had occasion to make a medico-legal examination of the body of a woman far advanced in life, and I found in her left broad ligament a cyst as large as an orange, filled with clear, limpid serum. It was pressing upward and backward out of the pelvis, the ovary being at its lower and anterior aspect, and the Fallopian tube arched over its anterior surface. On the side next the uterus two smaller cysts were lying close to it, and, nearer still, a very minute sac, which was evidently, from its mere shape, a distended parovarian tubule. The ovary was white, puckered, and shrivelled, and had not a continuous relation to any of the cysts, though it touched the largest at its hilum. The Fallopian tube was normal, and had no other relation to the tumors than slight connection by loose areolar tissue. There was in my mind no doubt that this was a pathological indication of value; for in an ovariectomy that I had performed not long before, I was struck by the fact that the ovary was perfectly healthy and separated from the tumor, as was also the tube, by a mesovarium of some extent; in fact, I did not do ovariectomy at all in the removal of the tumor; for, in passing the chain of the écraseur round its base, I did not include either the tube or the ovary, and they were both returned into the abdominal cavity. In the records of ovariectomies performed these cases have, up till now, always been stated as ovariectomies, and the ovary and tube associated with the tumor have been removed with it. Both the record and the removal of the ovary are mistaken. The operation is not an ovariectomy at all, and nine times out of ten both ovary and tube might easily be separated from the tube and left, and this practice I now always try to follow. It is very curious that those who are crying out most loudly against the unnecessary removal of ovaries have been in the habit of pursuing this practice in the case of parovarian tumors, without compunction.

The result of all my observations has been that in every truly unilocular tumor I have found the ovary unaffected, though on several occasions I have seen it stretched over the cyst-wall. I have three or four times observed the ovary separated from the cyst by a more or less distinct mesovarium, and on one occasion I found in that fold some unaffected parovarian tubules, in the case of a lady, a patient of Mr. Hall-Wright, from whom I removed a large unilocular cyst about six years ago. In another instance the healthy ovary was left at least an inch below the clamp; and in a third the ovary and tube were found glued on to the cyst, but forming no part of it. In this cyst the walls were extremely thick, and contained large quantities of involun-



tary muscular fibre—a fact which I do not think militates against my view that it was of parovarian origin; for nucleated muscular fibre-cells exist in the broad ligament to some considerable extent, and myomatous tumors are found occasionally within its folds.

The case to which I have alluded as presenting a tumor with many cysts, but which ought to be placed under the same category as the unilocular cysts, occurred in the person of a lady aged sixty-six. She was a widow, having been married forty-three years before the tumor appeared. The menses had ceased for nearly twenty years, and her youngest child was twenty-five years of age. There was every reason to believe, therefore, that the condition of the cell-growth of her ovaries would be one of very low activity. The tumor was first discovered about five years before I saw her, and had grown slowly for four years and a half, but with extreme rapidity for six months. The abdominal parietes were very thin, and the percussion-wave was communicated with extreme and uniform rapidity in every direction. I diagnosed, from my former experience, that it was a unilocular Wolffian cyst, and that the ovary would, in all probability, be found uninvolved. I was right about the ovary, for that was found, along with the tube, almost undisturbed, and not in any way involved in the tumor, the latter having apparently escaped from between them backward and upward. I had made a mistake, however, about the tumor being unilocular, for it was composed of five or six sacs. The walls of these were very peculiar, in being of uniform thickness, or rather thinness, for they were like tissue-paper, and had no thickening toward the base of the tumor, as is always the case in the multicystic adenoid or multifollicular tumor of the ovary. My belief is that this tumor was a specimen of dropsy of a number of the parovarian tubules; for, if one alone may become dropsical, there can be no reason why a number should not be so coincidentally. My opinion has been greatly strengthened, however, by a re-examination of the tumor for the special investigation of one point drawn attention to by Dr. Bantock; that is, the possibility of separating the outer or peritoneal coat of the cyst. This can readily be done toward its base for a short distance up from the ovary, discovering the fact that the gland and its duct can be stripped off the tumor without damaging its wall. The rapid growth during the later periods of its existence, however, seems to have so stretched the walls, that, beyond two or three inches from its base, the peritoneal layer cannot be separated from the cyst-wall proper. I have quite satisfied myself that this case is really one of multilocular parovarian tumor; and I am confirmed in this view when I find

that Dr. Bantock refers to a case of Mr. Spencer Wells's, which was recognized as one of bilocular parovarian cyst.

Considering this, it is a point for investigation whether or not the curious little pedunculated cyst, representing the terminal bulb of the Wolffian tube, and generally known as the organ of Rosenmüller, may not sometimes form a unilocular tumor of morbid size, and be removed as an ovarian growth. In one case I have removed it during an ovariectomy on account of increase in its size. All these rudimental structures are lined with epithelium, and may, therefore, conduct themselves as other structures so provided are known to do.

The diagnosis of parovarian cysts is generally very easy to the practised hand, for they give a uniform and very rapid wave of fluctuation in every diameter of the tumor. Their shape is usually globular, but they do not project into the pelvis, as is very often the case with the minor cysts of an ovarian tumor. They very rarely give rise to symptoms of any kind, and still more rarely to any symptoms of urgency. They sometimes grow very rapidly. I removed a very large parovarian cyst some years ago from a patient under the care of Dr. Campbell, of Stourbridge, where the fact was fully ascertained that the tumor grew in less than six weeks. It may happen, however, that all the conditions of a parovarian cyst may be very closely imitated by an ovarian tumor, and they are absolutely mimicked by two rare forms of cyst to be afterward described, one of which is a development of the occluded tube of the urachus, and the other I believe to be developed from a wandering ovum. The fluid removed from these cysts is often limpid, of low specific gravity, containing little albumen. This, however, is by no means always the case, for I have removed many parovarian cysts which contained thick, gelatinous, grumous, or bloody fluid, which mere tapping would never have led us to suppose had been produced in any other cavity than that of an ovarian cystoma. At the meeting of the Medical Society of Strasburg, November 15, 1875, M. Kœberlé read a paper on the diagnosis between ovarian cysts, cysts of the broad ligament, and cysts of the Fallopian tube, based on the chemical examination of the fluid contained in them. He finds that the fluid of ovarian cysts contains some albumen, but a much larger proportion of the variety of albumen called paralbumen, the precipitate of which by nitric acid is soluble in acetic acid. The fluid found in cysts of the Fallopian tube, on the contrary, he says, contain albumen, but no paralbumen, so that the precipitate formed by nitric acid is rather increased by acetic acid. The fluid of cysts of the broad ligament is generally very limpid, containing salines, but no albumen.



Sometimes, however, it contains a small quantity of albumen, and the precipitate formed by nitric acid may be soluble in an excess of that acid. The researches of Schutzenberger with the tannin process for estimating the quantity and kind of albumen have, however, thrown great doubt on these conclusions, and by the same means I have quite satisfied myself that M. Kœberlé's conclusions are not to be accepted. At my request my friend Dr. McMunn, of Wolverhampton, undertook to investigate the possibility of determining the source of fluids by means of the spectroscopic. I furnished him with a number of specimens of fluid, the sources of which were absolutely known, but the results of his researches were entirely negative. They are given in detail in his valuable work on "The Spectroscope in Medicine" (London, 1880). There is an impression abroad that these cysts are occasionally cured by tapping, but I am bound to say I have never met with an instance of it. I have tapped many of them, and I have seen them remain quiescent for a time—as long as three years—and then require to be tapped again. In my recent practice I have altogether discontinued tapping, and I invariably remove them, the operation for their removal being simple and easy, and in my hands it has been uniformly successful.

A further point of great importance in recognizing mere ascites from an ovarian or parovarian tumor, is that in the former condition there is generally an appearance in the patient's face of suffering from serious functional disturbance, whereas in the latter the patient often looks in perfect health. Sometimes we find the walls of a parovarian tumor very thin and flaccid, in this way closely resembling the appearance of ascites.

This class of tumors it is which has given rise to a great many different beliefs in connection with the history and treatment of ovarian tumors which Dr. Mathews Duncan has very properly designated delusions. Among these was the belief, originated by M. Boinet, that ovarian tumors had been cured by tapping, by injection with iodine, by what Mr. Baker Brown called a formation of a false oviduct by the insertion of setons, and by a variety of other more or less barbarous and unscientific proceedings.

The walls of these cysts are nearly always very thin, consisting of little more than a thin basement-membrane and a lining of columnar epithelium. This epithelium undoubtedly undergoes alterations such as I have described as occurring in ovarian cysts, for I have seen all the appearances on the lining of a parovarian cyst that I have seen in an ovarian tumor. They undergo malignant degeneration, they suppurate and become gangrenous just as ovarian tumors do. Sometimes the basement-

membrane of their walls, which always contains some muscular fibre, becomes enormously thickened, and I have removed a parovarian cyst with walls more than half an inch thick, the greater part of which was composed of fusiform muscular cells.

They are therefore not matters to trifle with. Their early removal is always simple and safe. They should never be tampered with by tapping, but ought to be removed by abdominal section in their early stages, just as should ovarian tumors. Sometimes they burst and seem to disappear spontaneously, and this again has given rise to the statement that this result is obtained occasionally for ovarian tumors. When this fortunate accident takes place early in their history it will probably do no harm, but if it occurs during the advanced stages it is just as likely to result in cancerous implantation of the peritoneum as if the cyst had been ovarian. A few months ago I removed a large parovarian cyst which had several times been tapped, and which had ruptured into the abdominal cavity. On removing it I found the peritoneal surface studded with papilloma, of which the patient has since died.

I have now to speak of that variety of cystoma to which I have frequently referred as "Rokitansky's tumor," or the multiple cystoma. I am quite aware that both of these names are open to objection, but I have failed to find any other more appropriate or descriptive. To Rokitansky is clearly due the credit of having first described the tumor as a special variety of ovarian cystoma, and to Ritchie must be accorded the priority of discovering ova in its cysts; though, as I have already shown, the observation led him into a too hasty generalization. I think that I may claim for myself the position of having first arranged the various contributions into their proper positions, and from two specimens I can now confirm and extend the observations of the two authors I have cited.

These tumors are always double, no case having yet been described as having occurred on one side only. They are always of very slow growth; their cysts are uniformly small, rarely reaching the size of an orange, and generally being little bigger than grapes. The tumors are never large, and it is only the fact that both ovaries are always affected that makes them objects of surgical interference. The contents of the cysts are invariably limpid, and the ovum may nearly always be found, and in these two respects, as well in the immense number of the cysts, the tumors differ absolutely from ordinary cystoma.

The first case occurred in the person of a hospital patient from whom I removed both ovaries. Both tumors were multilocular, and had one or two major with innumerable minor cysts, gradu-