

ADENOMYOMA OF THE OVARY.*

BY

M. RABINOVITZ, M. D., F. A. C. S.,

Adjunct Gynecologist Beth Israel Hospital, Gynecologist Sydenham Hospital,
New York City.

(With five illustrations.)

IN my studies of the "Pathogenesis of Adenomyosalpingitis" (1) I have arrived at the conclusion that the glandular proliferations which take place in the Fallopian tubes are in the majority of cases due to inflammatory causes. I have now the opportunity of reporting a similar morphological occurrence in the ovary, which is in my opinion, also the result of an infection.

Report of the Case.—Bertha L., aged fifty-one, began to menstruate at seventeen, irregular in type, every five, six, to eight weeks,

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scanty in amount and painless. One year ago her menses ceased altogether, but three weeks ago she stained for several days. She married twenty-three years ago, has borne no children, but has miscarried once in the third month of gestation, three years after her marriage.

Previous Illnesses.—Following her miscarriage, she was curetted, and this resulted in a pelvic inflammation which confined her to bed for three weeks.

Present Illness.—About five months ago she was suddenly taken ill with severe abdominal cramps, which were felt most acutely in

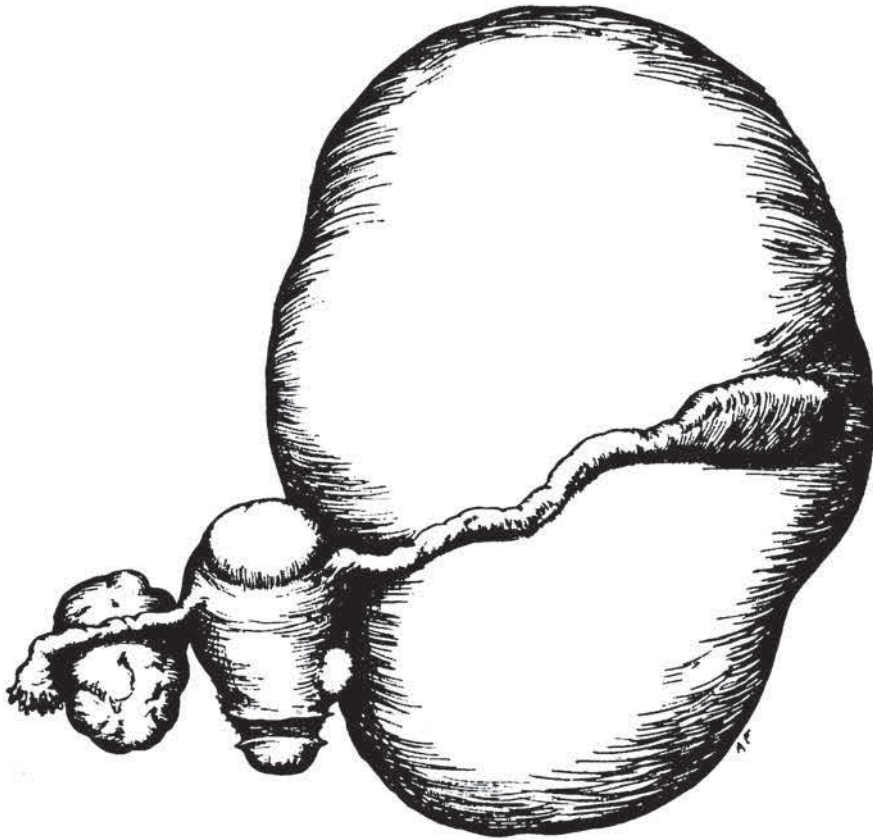


FIG. 1.—Adenomyoma of ovary.

the right side of her abdomen. After some hours of suffering the pains have subsided, and since then she claims her abdomen is progressively growing larger, accompanied by epigastric discomfort after meals, by frequent micturition, and a sensation of tightness. She has lost no weight.

Physical Examination.—The patient presents a well-nourished individual, of good complexion, and healthy appearance. Her heart and lungs are negative, there is no edema of the lower extremities.

Abdomen.—The abdomen is markedly enlarged, the skin is tense, the umbilicus is flattened out. Percussion elicits flatness all over, excepting low down in the flanks, where it changes to tympany.

The percussion note does not vary with alterations in the position of the body. Palpation reveals the presence of a large, smooth, uniform cystic tumor, which occupies the entire abdomen, its upper limit seems to be above the level of the ensiform cartilage.

Vaginal Examination.—The outlet is nulliparous in character, there is no urethral discharge. The cervix is small, the uterine body is about normal in size, irregular in outline on account of two small fibroids. The right fornix is occupied by a doughy tumor the size of a lemon, which is fixed in position, being adherent to the

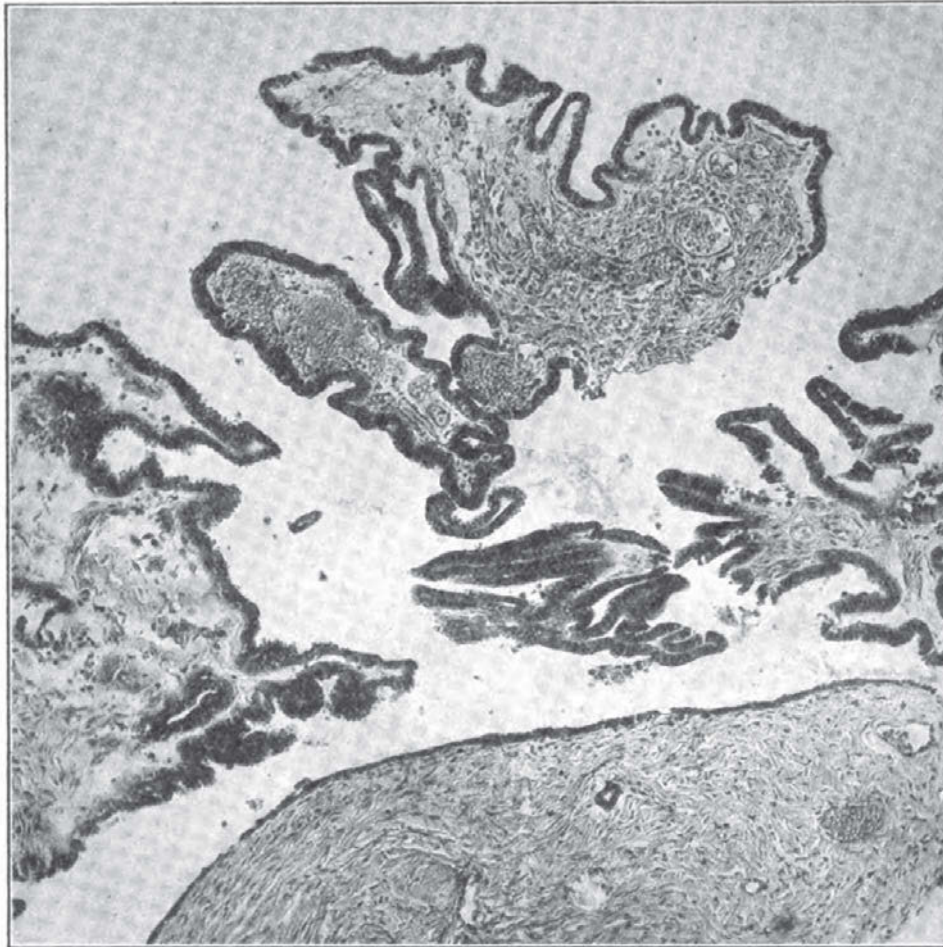


FIG. 2.—Papillary adenoma in the interior of the left ovarian cyst.

pelvic floor and to the side of the uterus. The left fornix is filled with part of the base of the cystic tumor which fills the abdomen.

Operation.—On October 23, 1916, I performed an abdominal panhysterectomy. The operative findings were as follows. The large tumor proved to be an enormous cyst (Fig. 1) of the left ovary, extending upward to the under surface of the diaphragm. It contained fifteen pints of dark serosanguinous fluid. The uterus about normal in size was the seat of two fibroids, subserous and interstitial

in type, one being large as a walnut, the other about the size of a hazelnut. The right ovary was converted into a semisolid tumor, measuring $4\frac{1}{2} \times 3\frac{1}{4} \times 2$ inches, intimately adherent to the pelvic floor, and to the right lateral wall of the uterus. The left Fallopian tube was elongated and thickened to the diameter of the little finger, it was stretched across to antero-inferior surface of the cyst wall, its fimbriated end occluded, terminating into a cystic club-shaped dilatation. The right Fallopian tube was also elongated,

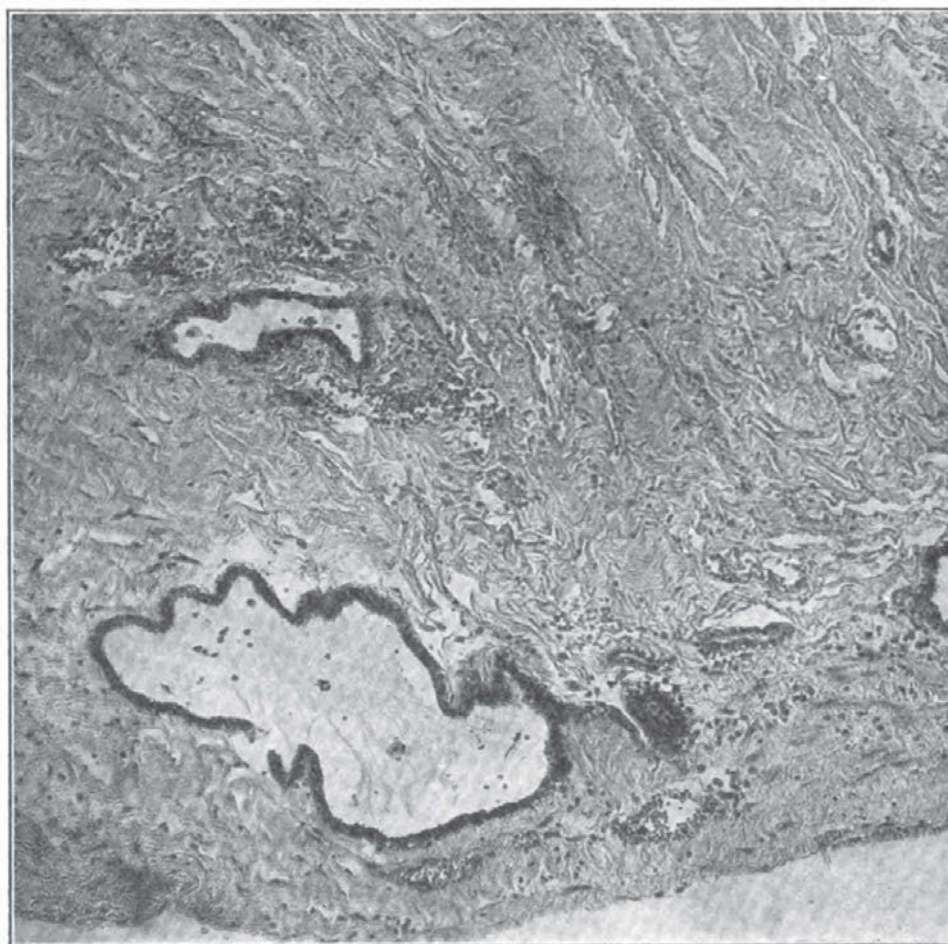


FIG. 3.—Cross-section of the cord-like structure in the cyst cavity showing adenomyomatous structure.

thickened, tortuous, bent upon itself and adherent to the posterior surface of the ovary.

Pathological Report.—The large cyst is a cystoma serosum simplex partum papillare. The papillary growths are situated on the inner surface of the inferior wall (Fig. 2). Running across the interior of the cyst cavity in its lower portion, is a smooth cord-like structure, cross-section of which present the characteristic formations of adenomyoma (Fig. 3). The gland spaces are irregular cavities, lined with cylindrical epithelium. Some of the spaces contain

mucin and polynuclear cells, surrounded by muscular tissue, which is undergoing hyaline degeneration. *The fibroids* in the uterus also show adenomatous changes (Fig. 4). The gland lumina are lined with a low columnar epithelium, no cilia are to be noted anywhere. In some parts of the section a marked round cell infiltration is present, immediately beneath the epithelial lining. *The right ovary* is semisolid in consistency, neither macroscopically nor microscopically are there any cystic dilatations to be noted. Sections taken from several different parts of the tumor presented an adenomyo-

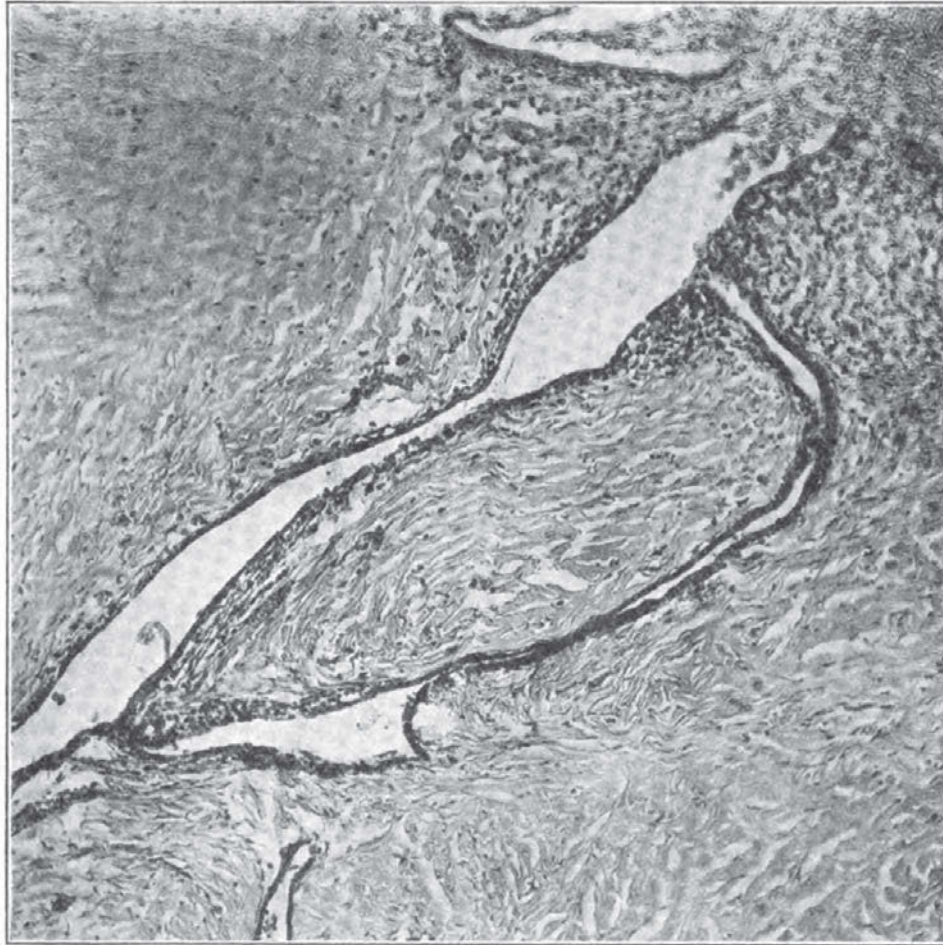


FIG. 4.—Section from fibroid showing adenomyomatous changes and marked round cell infiltration.

matous proliferation (Fig. 5). The areas in the ovary containing these glandular formations have a muscular stroma, which stands out in marked contrast to the connective-tissue stroma of the ovary. The lumina of these glands contain old blood and detritus. The ovarian stroma proper shows everywhere evidences of a chronic oophoritis. Both Fallopian tubes present the classical morphological changes of chronic suppurative salpingitis, and require no further comment.

Epicrisis.—Analysing the clinical data in this case, we note that this patient has entered the period of puberty at a later date than is customary for women of her race, that the amount was always scanty and the periodicity irregular. These factors point to a genital system that is below par. Her relative sterility for the first three years after her marriage, followed by a spontaneous abortion in the third month of gestation, are strong probabilities of a gonorrheal infection. The pelvic peritonitis which has set in after the



FIG. 5.—Section from right ovary presenting the adenomatous formations. Note the difference between the normal ovarian stroma and the cytotogenous muscular structure immediately surrounding the gland spaces.

curettage following the miscarriage has aggravated the primary infection, terminating in a functional and organic disturbance of her gonadal apparatus with the result of a permanent sterility.

The pathological findings are characteristic of a slow and insidious destructive process, so typical of the Neisserian organism. In the left ovary it produced a large cyst, the result of progressive con-

fluence of infected Graffian follicles, which have undergone dilatation. The rapid increase in the size of this huge ovarian cyst, during the past few months, was in all probability due to repeated intracystic hemorrhages. Clinically, these assertions are borne out by the history of a sudden onset of acute pains, followed by a progressive increase in the size of the abdomen, and by the serosanguinous contents of the cyst.

The multiplicity of pathological lesions produced by apparently the same cause, gives rise to several queries, chief among which are the following: Why have the Fallopian tubes failed to present adenomyomatous changes, as they do in other long-standing chronic types of infection? Why has the right ovary responded differently from the left, undergoing a rather unique morphological change? From where has the muscle tissue in the right ovary arisen, in order to form an adenomyomatous structure?

Judging by analogy from our studies of adenomyosalpingitis we may state with a fair degree of assurance, that the tubes have probably been affected much later than the ovary, for the time factor plays an important rôle in the formation of adenomatous changes. As to the source of muscle tissue in the right ovary we may advance three theories. One is that of von Recklinghausen, who ascribes all adenomatous changes to congenital displacements, and in the case of the ovary it may arise from rests of the Wolffian ducts. The second theory, to which I am more inclined, is that of Chiary, namely the inflammatory cause, and in this case we have sufficient clinical facts to justify this assumption. The right ovary was intimately adherent to the uterine wall making it appear as if it were part of the uterine body, these intimate adhesions were the result of previous inflammatory processes, and some of the uterine muscle fibers might have been carried along, forming "ausstülpungen," which have been repeatedly observed in the Fallopian tubes; or the muscle tissue may have arisen from the hilus of the ovary where the peritoneal reflection takes place. The third theory, or rather fact, is, that the muscle fibers which have given rise to the formation of the ovarian adenomyoma, were derived from the ovarian stroma proper, for the ovary does contain, contrary to the accepted teachings, smooth muscle fibers. This anatomical fact has been overlooked hitherto by most teachers of histology, this error ought to be corrected, and the hypotheses that are invoked in order to explain this pathological occurrence in the ovary, will then become superfluous.

As to rarity of the lesion in the right ovary I may state that I have failed to find a similar record. Pfannenstiel(2) states that fibroadenomatous formations in the walls of ovarian cysts, or in the solid portions of multilocular cysts are met with occasionally, but solid adenomas in ovaries which show no cavity formations either macro- or microscopically is a very rare pathological occurrence. Pfannenstiel has met this condition in less than 3 per cent. of all epithelial tumors of the ovary. Stratz(3) gives the frequency of solid fibroadenomas of the ovary as 3 per cent. Pick(4) in his extensive pathological experience has observed ovarian fibroadenoma only four times, and has termed this structure "adenoma endometrioides" on account of its close resemblance to the uterine endometrium. In fact some of the gland spaces in my sections contain blood and detritus. All of the quoted authorities speak of ovarian fibroadenomas, which in itself is sufficiently rare, and not of ovarian adenomyomas, which is unique indeed. In view of these facts I have deemed the report of this case as worthy.

REFERENCES.

1. Rabinovitz, M. The Pathogenesis of Adenomyosalpingitis. *AMER. JOUR. OBST.*, vol. lxxvii, No. 4.
 2. Pfannenstiel, J. *Verhan. d. Deutsch. Gesell. f. Gyn.*, Kiel, 1905.
 3. Stratz. *Veit's Handb. der Gyn.*, S. 173, Bd. iv.
 4. Pick, L. *Berl. klin. Woch.*, 1905, p. 502.
- 1261 MADISON Ave.