Multilocular Adeno-Papillo-Cystoma of the Ovary:

WITH SARCOMATOUS NODULES ON THE INNER SURFACE OF ONE OF THE CYSTS

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REPRINTED FROM
THE AMERICAN JOURNAL OF OBSTETRICS
Vol. XXXIV. No. 3, 1896.

NEW YORK
WILLIAM WOOD & COMPANY, PUBLISHERS
1896

MULTILOCULAR ADENO-PAPILLO-CYSTOMA OF THE OVARY:

WITH SARCOMATOUS NODULES ON THE INNER SURFACE OF ONE OF THE CYSTS.

Sarcoma of the ovary, although not of very frequent occurrence, is no great rarity, and in our limited experience we have met with several cases. These sarcomata are invariably solid tumors, but not a few of them in the more advanced stages contain cyst cavities. It has been our routine practice to take sections from various portions of all ovarian cysts removed, whether to the naked eye they appear to be of any importance or not. Had it not been for this systematic examination of all specimens received, we would not have been so fortunate in discovering the sarcomatous process hereafter described. Sarcomatous nodules developing in the walls of multilocular adenocystomata of the ovary are, to say the least, of very rare occurrence, and hence this case is reported in detail.

M. G., age 63; white; admitted to the Johns Hopkins Hospital, in the service of Dr. Kelly, October 10th, 1894.

Complaint.—Abdominal enlargement; moderate pain throughout the abdomen.

The patient has been married forty-one years; has had ten children and four miscarriages. The menopause occurred at 47. About six months ago she first noticed that there was some abdominal swelling on the left side; this has continued to increase, and has been accompanied with sharp pain throughout the abdomen and back. The patient is a healthy looking woman; her mucous membranes are of a good color, her appetite poor, bowels constipated. The abdominal measurements are as follows: from the pubes to the umbilicus, twenty-three centimetres; from the umbilicus to the ensiform cartilage, eighteen centimetres; from the right anterior superior spine to the umbilicus, twenty-two centimetres; from the left anterior superior spine, twenty centimetres. The abdominal girth at

the umbilicus is fifty-four centimetres ; the greatest circumference, fifty-eight centimetres. Operation October 13th. Right cystectomy. After opening the abdominal cavity the cyst was punctured with a trocar and partially evacuated. It was then drawn out through the incision and tied off as close to the uterine cornu as possible. The patient made an uninterrupted recovery and was discharged May 8th.

Pathological Report.—The specimen consists of the right tube and of a cyst of the right ovary. The cyst, which is approximately twenty-two centimetres in diameter, is irregularly globular, smooth, glistening, and bluish-pink in color. Over an area fourteen by ten centimetres the cyst wall has disappeared and numerous thin-walled cysts project outward ; there has evidently been a previous rupture of the wall at this point. On section the tumor is divisible into two portions—an upper, consisting of one large cyst cavity, and a lower which is semi-solid and is composed of many small cysts. The large cyst, which occupies the upper half of the tumor, has a wall averaging one millimetre in thickness. Its inner surface is grayish in color and is in part smooth and glistening. In many places, however, it is covered by velvety, wart-like masses, which have a yellowish tinge and vary in size from a pin point to one and five-tenths centimetres. At four or five points, at least, small,

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Explanation of the Plate.

Fig. 1, *a*, represents a portion of the large cyst wall, twice enlarged. In the left lower corner the typical papillary appearance is noted, while in the left upper corner and on the right side the smooth but slightly undulating surface of the cyst wall is visible. Occupying the centre of the field is a large, dome-like nodule ; to the right and above, a somewhat smaller one ; below, three similar nodules. These are sarcomatous masses. Fig. 1, *b*, is the above on cross section. On the left the delicate papillary masses can be distinctly seen. The thickness of the sarcomatous nodules is well shown, and between some of them are delicate papillary masses.

Fig. 2 (× 35) shows a sarcomatous nodule on section, and also the papillary masses on either side. The underlying connective tissue is poor in cell elements and contrasts sharply with the superficial sarcoma, the cells of which are very abundant. The nuclei are round or irregular, and in the pale staining area are very large.

Fig. 3 (× 435) is a highly magnified portion of the sarcomatous nodule seen in Fig. 2. In order to appreciate the size of the cells we will look at the small, round, deeply-staining nuclei scattered throughout the tissue ; these are mononuclear leucocytes—further, just above the centre of the field, is the horseshoe-shaped nucleus of a polymorphonuclear leucocyte. The majority of the sarcoma cells have round, oval or irregularly oval, fairly deeply staining nuclei, and in the nuclei the coarse and fine chromatin granules are easily demonstrable. Surrounding these nuclei is a variable amount of pale staining protoplasm. In the left lower corner is an irregular plaque of protoplasm containing eight nuclei ; in the vicinity of the right lower corner an almost circular protoplasmic mass with an irregular, very deeply staining nucleus. Just above and to the left of this is an irregular plaque of protoplasm containing a deeply staining nucleus, to either end of which secondary nuclei are attached by delicate filaments. Scattered throughout the field are numerous similar cells, all showing karyorhexis. A particularly striking cell is that just above and to the right of the centre ; this is markedly irregular in contour, and, besides having a distinct nucleus, contains many coarse granules of chromatin.

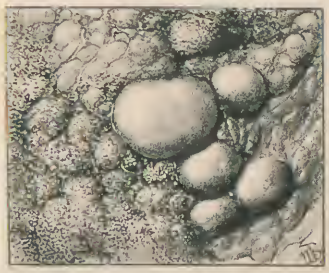
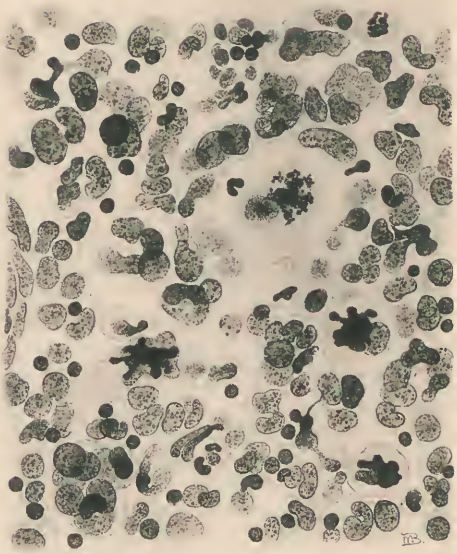
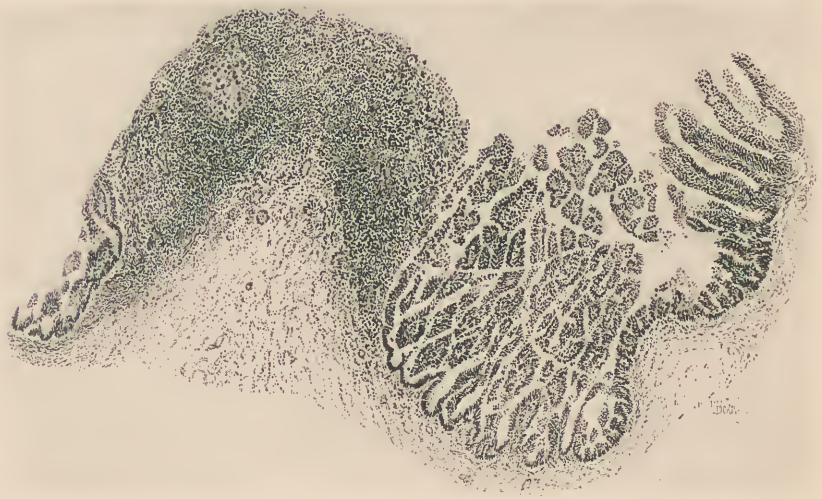


Fig. 1ª

x 2 Fig. 1ᵇ



x 425 Fig. 3



x 35 Fg. 2

CULLEN.—Sarcomatous Nodules on the inner surface of a Multilocular Adeno-Papillo-Cystoma of the Ovary.

dome-like elevations are seen springing up between the papillary masses (Fig. 1) ; these have smooth surfaces, and in this way stand out in sharp contrast to the papillary masses which surround them. The fluid from the large cyst is of a dark chocolate color, and histologically contains desquamated, fatty epithelium and red blood corpuscles. The tube presents the usual appearance and the parovarium is intact.

Histological Examination.—The small cysts which form the semi-solid portion of the tumor are lined by high cylindrical epithelium, and projecting into the cavities of many of them are minute papillary masses likewise covered by one layer of high epithelium. In the walls of the cysts are small gland-like spaces, evidently the commencement of new cysts. The cavities of the cysts are filled with granular material and degenerate cells. The walls of the large cyst are composed of connective-tissue cells arranged in parallel layers, and the cellular elements increase as one approaches the inner surface. The cavity of this large cyst is in places lined by very high cylindrical epithelium, the nuclei of which are close to the basement membrane, and the protoplasm of which takes the hematoxylin stain. This epithelium will end abruptly, the adjoining portion of the wall being covered by low cylindrical epithelium having nuclei situated near the centre of the cell, and protoplasm that takes the eosin stain. The papillary masses seen scattered over the inner surface of the cyst have central stems of connective tissue, which are directly continuous with that composing the cyst wall. They are covered over by cylindrical epithelium. The dome-like masses noted macroscopically present a markedly different appearance; they consist of large cells which contain large, granular nuclei (Fig. 3). Some of the nuclei are round or oval ; others are half-moon-shaped or irregular in contour. The chromatin of the nuclei is finely or coarsely granular. Scattered throughout these nodules are large, irregular plaques of protoplasm ; some of these are oval or round and contain anywhere from two to ten large nuclei similar to the surrounding ones. Other masses of protoplasm are irregular and contain masses of deeply-staining chromatin which may assume almost any shape. Here and there between the cells of the new growth are small round cells. Over the margins of the nodules the cylindrical epithelium is still present, but at their convexities has disappeared. We must consider these as sarcomatous nodules, and they have evidently originated from the connective tissue immediately beneath the epithelial lining.

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