HENROTIN (F.) & HERZOG (M.)

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The development of a carcinoma upon the soil of a primarily nonmalignant kyst-adenoma of the ovary, according to Pfannenstiel (Veits Hand b. d. Gynecol. Vol. III, p. 345), is quite rare.

This author makes the following statement with reference to the subject: "Opinions vary greatly concerning the frequency of this (carcinomatous) degeneration. If, however, the term carcinomatous degeneration is limited, as it ought to be, to the changing of a kyst-adenoma, with all its typical clinical and anatomical characters into a carcinoma, then this degeneration is not met with frequently, and it appears to occur under conditions which so far have not been well recognized. Kyst-adenomata may exist for years and for decades, even in women advanced in years, without even showing a trace of carcinomatous degeneration. Adenocarcinomata, on the other hand, as a rule present smaller tumors, having existed only a short time, and originating from the start as adenocarcinomata. Primary carcinoma and carcinomatous degeneration of a kyst-adenoma must be kept strictly apart. If larger kyst-adenomata contain carcinomatous foci of a more recent data in their wall, then one is justified in assuming a carcinomatous degeneration." Everybody of course must accept Pfannenstiel's definition as to what is to be considered a true carcinomatous degeneration of a primarily simple and nonmalignant cystic tumor of the ovary. We fully agree with this author's views concerning the infrequency of this change of character and type.

Among a large number of cystic ovarian tumors, operated and examined microscopically by us during the last three years, the condition under discussion has only been met with twice. These two cases present a good deal of variation from a clinical as well as from a pathological standpoint. In view of the fact that the literature upon this subject is by no means abundant, a description of the two cases may not be out of place.

Case No. 1—October 21, 1897. Mrs. R. R., fifty-two years

old, born in Germany, has been a resident of Chicago for a number of years. Her father is alive at the age of ninety years; mother died at seventy years, cause of death not known. Mrs. R. has been married for twenty-five years, no children, no miscarriages; commenced to menstruate when fifteen or sixteen years old, always more or less irregular, intervals two or three or four weeks. Menopause at forty-five years. Patient has been subject to rheumatic attacks for several years. Some years ago typhoid fever; habitually constipated for an extensive period of time. About two or three years ago, Mrs. R. noticed pain in the back, and believing that she might have some pelvic trouble, she consulted a physician, who after a local examination diagnosticated a tumor in the pelvis. Patient now complains of pain in the pelvis radiating to the back. She also states that the tumor has been growing larger slowly but constantly. After a bimanual examination of the patient a diagnosis of cystic tumor of the right ovary was made.

The patient was operated upon by abdominal celiotomy October 23, 1897, at the German Hospital of Chicago. Slight elevations of temperatures developed post operationem, the highest point being reached on November 4th, with 102.6° in the rectum. On November 18, 1897, the patient was discharged from the hospital, the operation wound having completely healed, and the subjective symptoms of pain, etc., having disappeared.

An examination of the tumor after its removal shows it to be cystic in character, almost spherical in outline, with diameters varying from ten to thirteen centimeters. The cyst wall shows a varying degree of thickness, from fractions of mm. to 8 mm. through its thickest part. The interior of the cyst contains a clear fluid, and the inner surface of the cyst wall shows irregular elevations and ridges but no papillary excrescences. It is partly covered by a grayish, fibrinous material. The tissues are here covered with smooth peritoneum.

Microscopic examination: The thinner parts of the cyst wall consist of fibrous tissue composed of fusiform cells with small fusiform nuclei. The inner surface shows a condensation of fibrous tissue, but lining epithelia are absent; they evidently have been shed in the course of time and have not been replaced. At the point where the cyst wall is thickest nests of epithelial cells are found in its substance. These cells are mostly of a short columnar or cuboidal type, but they show much polymorphism. Some

of the alveolar spaces are densely crowded and completely filled with epithelial cells. Other spaces are lined by several rows of epithelia leaving in their center a "cell free" space, either empty or filled with a granular cell detritus. Small, evidently very young nests are found in the neighborhood of larger, older nests, Rows of epithelial cells are seen penetrating into connective tissue clefts (lymph spaces). The tube wall is free from any marked changes, it is practically normal in its histology. The histologic picture is that of a typical carcinoma showing in some places a purely alveolar type, and in others that of an adenocarcinoma.

The anatomical diagnosis of the carcinoma, limited to a comparatively small area in the thickest part of the cyst wall, cannot

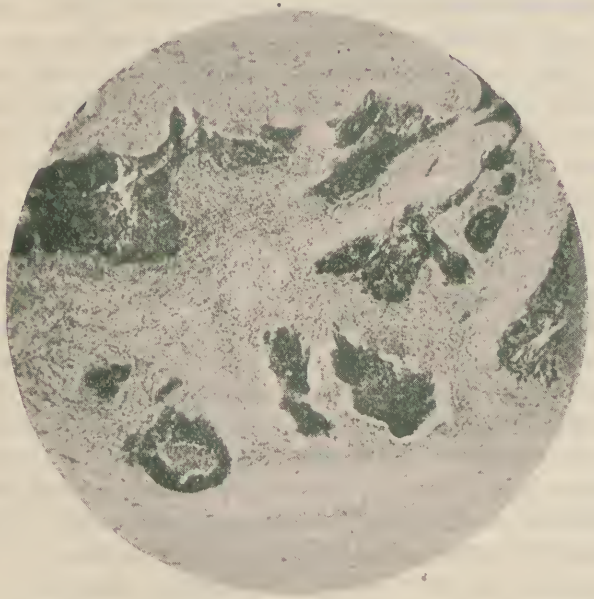

Fig. 1.—Section through thickest part of cyst-wall of case No. 1, showing nests of epithelial cells (X80).

be contested, the picture is too typical. That the cystic tumor must have been primarily nonmalignant is clearly proven by the history of the case. For two or three years previous to the operation, the woman had symptoms pointing to pelvic trouble, and a tumor had actually been diagnosticated by the then attending physician. This tumor had since been growing slowly but steadily. After its removal it was found that it was a cystic tumor,

the wall of which did not present anything particular, except at a circumscribed area where a recent carcinomatous process had become established.

On June 30th, 1899, inquiries were instituted to ascertain what had become of the patient. It was learned from a friend that she had fully recovered from the operation, that she had enjoyed good health, and had regularly attended to her household duties. She had left Chicago in January, 1899, and had moved to Indiana shortly before these inquiries were made. Mrs. R. has quite recently written to a friend in Chicago, and has stated that she was perfectly well. It appears, therefore, that recurrence of the malignant growth had not taken place. This gratifying result is by no means very astonishing, since it is well known that malignant neoplasms situated in the ovary do not exhibit a tendency to form early metastases, but on the contrary may remain localized for quite a while. In our case No. 1 there was present a small carcinomatous focus only, and from the happy result of the operation it may be inferred that at the time of the operation metastases had not yet been formed, so that a complete eradication of the neoplasm had been possible.

Case No. 2—July 25, 1897. Miss A. C., forty-seven years old, American born, living in a small town in Illinois, had for some time been the subject of symptoms pointing to pelvic trouble. When examined some time in July, 1897, multiple myomata of the uterus was diagnosticated, also a tumor of the left ovary. An operation was advised and a median abdominal celiotomy was performed on July 28, 1897, at the St. Joseph Hospital of Chicago. There was removed at this operation the left ovary, which was the seat of a cystic tumor, the uterus, from which were springing three fibromyomata, the right ovary, and both tubes. The uterus was severed by supravaginal amputation, the cervix being left because on examination it had not shown any changes warranting its removal.

Description of the parts removed: The cystic tumor of the left ovary was first examined after the operation had been performed and its fluid contents had escaped, so that nothing can be stated as to their character. The cyst when spread out is oval in outline, with a greatest diameter of 14 cm. In general the wall is from 3-5 mm. thick, except where the cyst arises by a short pedicle from the ovary. Here the cyst wall is one cm. and more in diameter; it shows on its outer surface numerous blood vessels.

The inner surface of the cyst is covered with a grayish fibrinous or grumous material, which in some places hides small papilliferous excrescences. The uterus is firm, hard and small. Springing from it are three subserous fibromyomata. The largest one, extending upward, springs from the anterior uterine wall. It is round in its general outline, flattened from before backwards and measures 14 cm. from side to side. The second fibroid springs from the left side, and is somewhat kidney shaped and pediculated like the larger one described above. It has a greatest diameter of 5 cm. A small sessile fibroid projects from the anterior uterine surface a little above and to the right of the cervix. The first mentioned largest fibroid, at its upper pole, contains a cyst filled with albuminous fluid. This spherical cyst has a diameter of between 4 and 5 cm. The right ovary though small shows nothing abnormal, it is not cystic. The right Fallopian tube is slightly tortuous in its course, of normal thickness and 6 cm. long. The left is straight in its course, somewhat thicker than the right one, and 10 cm. long.

Microscopic examination: Cystic tumor of the left ovary. The thinner parts of the cystic wall show a tissue composed of fusiform cells with oval or fusiform nuclei. There is a condensation of tissue towards the inner surface of the wall, but lining epithelia are not found. The thickest part of the cyst wall and some of the papillary excrescences examined show the following structure: We find a stroma composed of fusiform connective tissue cells. These cells are rather loosely arranged, and they carry quite an abundance of blood vessels. Enclosed in this connective tissue stroma there are found epithelial structures of a glandular type. The gland spaces are oval or round in general outlines, and are lined by cuboidal epithelia. Generally the lining is not composed of a single, but a double layer of cells. These epithelia have evidently proliferated quite profusely, and they have formed papillary projections and ridges into the lumen of the pseudogland spaces. There is produced in this manner the picture of an adenoma invertens. An epithelial lining is here partly preserved on the internal surface of the cyst. These epithelial cells have a tendency to send masses of the type of tubular glands into the connecting tissues. Here the epithelium likewise forms a double or a triple layer. On some places one can also clearly see that epithelia penetrate from the gland spaces into the surrounding connective tissue. The latter, in the immediate neigh-

borhood of the epithelial masses or nests, frequently shows a distinct round cell infiltration, composed of lymphocytes and polynuclear leucocytes.

The microscopical examination of the fibromyomata shows a typical structure. The uterine mucous membrane presents a moderate degree of glandular hypertrophy. Both tubes and the

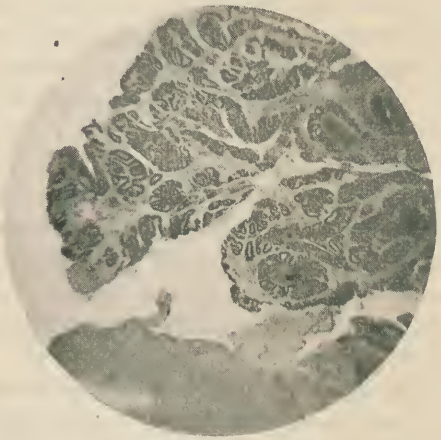

Fig. 2. Section from thickest part of cyst wall in case No. 2 showing gland spaces of the type of adenoma invertens.

right ovary are practically normal. From the microscopical examination of the thickest part of the wall of this ovarian cyst, the diagnosis adenoma malignum or adenocarcinoma, secondarily developed in a kyst-adenoma, was made.

The course of this case turned out to be quite difierent from that of case No. 1, and the subsequent events will seem to prove that at the time of the operation the malignant neoplasm must have already given rise to metastases. Miss A. C. recovered from the operation performed July 28, 1897, and left Chicago for her home. In February, 1898, it was learned that the patient about two months before had begun to suffer from pain and vaginal hemorrhages. Dr. Ryan, of Springfield, Ill., who examined her Feb. 23d, 1898, discovered a growth springing from the cervix and involving the adjacent vaginal wall. A small piece of the new growth was then excised. A microscopic examination of this piece of tissue showed it to be an adenocarcinoma, very similar in structure to the carcinomatous tissue found in the ovarian cyst. The patient subsequently died with all the symptoms of malignant disease of the pelvic organs.

The decided rarity of carcinoma developing upon the soil of an already existing kyst-adenoma of the ovary is a fact which must naturally excite some reflection and some comment. We are prone in pathology to attach too much significance to an already existing extensive epithelial proliferation, so far as the development of carcinoma is concerned. Such a causal nexus undoubtedly exists in some localities, very probably for instance

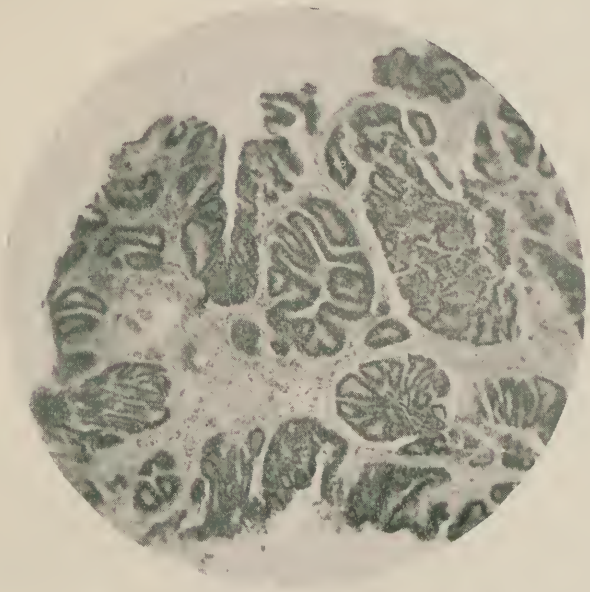

Fig. 3, the same as No. 2, more highly magnified.

in the uterus. Yet in other places an already existing epithelial proliferation does not seem to have any effect in preparing a soil favorable to carcinoma. Such seem to be the conditions concerning the kyst-adenomata of the ovary. Not only are they very frequent among women, but they also often exist for years in women advanced in life, and yet do not appear to form a source of great danger with reference to the development of a secondary carcinoma.

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