

PAPILLARY CYSTADENOCARCINOMA OF THE PANCREAS

CASE REPORT*

LLOYD B. BURK, JR., M.D.

ARLINGTON, VIRGINIA

AND

ROBERT P. HILL, M.D.

WASHINGTON, D. C.

FROM THE DEPARTMENTS OF SURGERY AND OF PATHOLOGY, THE GEORGE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE AND THE GEORGE WASHINGTON UNIVERSITY HOSPITAL, WASHINGTON, D. C.

TRUE NEOPLASTIC CYSTS of the pancreas are uncommon. They have been divided into three general types: (a) cystadenoma, (b) cystadenocarcinoma, and (c) teratomatous cysts. The cystadenoma occasionally exhibits a papillary tendency, and the carcinomatous cyst practically always does so. The most frequently encountered variety is the cystadenoma. Brunschwig (1942) estimated that there were about 50 cases of cystadenoma on record. Nine years later, Haukohl and Melamed² believed that possibly 11 more cases had been added in the interim.

The malignant variant of cystadenoma (cystadenocarcinoma) has been seldom observed. Lichtenstein⁵ (1934) was willing to accept only the case of Kaufmann⁴ (1911) as genuine in addition to his own. Kennard³ (1941) collected 25 possible examples from the literature, but certainly the majority of them are of doubtful authenticity. Twelve of these cases had been previously excluded by Lichtenstein on the basis that they were too incompletely studied to be certain of a true cystadenocarcinomatous nature. In a review of 202 primary carcinomas of the pancreas, Miller, Baggenstoss, and Comfort⁶ (1951) encountered only one example of cystadenocarcinoma.

Case Report.—G. B., a 39-year-old colored woman (gravida 7, para 6) was first seen on November 18, 1948, because of a "lump in her

stomach." The first symptom had been a small mass in the left side of the abdomen, appearing some 8 months before, with gradual increase in size and extension to the right side. Other symptoms were occasional mild aching pains over this tumor anteriorly, frequent episodes of low back pain, and some epigastric discomfort. There were no other symptoms referable to the gastro-intestinal tract. Her appetite had been good, and she had gained about 5 pounds in weight. The menses were regular, occurring every 20–21 days, the last menstrual period having begun on November 17, 1948. No history of menorrhagia or metrorrhagia was obtained. The last pregnancy terminated in a normal delivery five years prior to admission. Systemic review was essentially negative.

Significant physical findings were limited to the abdomen and pelvis. The abdomen was asymmetrical as the result of a firm, smooth, freely movable, non-tender, spherical tumor which was somewhat more prominent on the left side, measured about 25 cm. in diameter, and extended from the xiphoid process to the symphysis pubis. The uterus was in mid-position, partially fixed, and the left cornu was in close approximation to the abdominal mass. Routine laboratory studies showed nothing other than a mild secondary anemia.

The preoperative diagnosis was cystadenocarcinoma of the left ovary, and a laparotomy was performed on November 29, 1948. On opening the abdomen, a large cyst, densely adherent to the uterine fundus over an area 6 cm. in diameter, was found. After freeing the mass from the uterus, it was noted that the uterine tubes and ovaries were normal. The tumor seemed to arise near the middle of the body of the pancreas, and atrophic pancreatic tissue extended over its lateral aspects. The neoplasm was adherent to a segment of upper jejunum and transverse colon, and had displaced about two-thirds of the latter inferiorly. The middle colic blood vessels were closely incorporated in the cyst wall for a distance of about 12

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cm. The transverse colon, middle colic vessels, and jejunum were readily dissected free from the cyst, since distinct planes of cleavage were present in its laminated wall. A duct, 0.5 cm. in diameter and surrounded by dense fibrous tissue, was incorporated in the base of the cyst and extended toward the head of the pancreas. When this duct was ligated and transected, a few drops of gray, cloudy fluid escaped. The common bile duct and

was discharged on January 21, 1949. Subsequent examination after 3 years revealed no evidence of either recurrence or metastasis of the neoplasm.

Pathologic Findings: Grossly, the specimen consisted of a spherical cyst, 18 cm. in diameter, whose surface was roughened by many fibrous tags. Along one side was a flattened, elastic, tubular structure measuring 6 x 0.8 cm. which had no demonstrable connection with the cyst. There was



FIG. 1

FIG. 1.—The cyst delivered onto the anterior abdominal wall at time of operation. Note its relationship to the transverse colon. The middle colic blood vessels traversed along one side of the cyst.



FIG. 2

FIG. 2.—A segment of the cyst wall showing the larger papillary tumor protruding into the lumen.

portal vein were uninvolved in the disease process. Upon removal of the cyst, it was noted that the head and tail of the pancreas were intact and connected by a thin layer of intervening pancreatic tissue. The pancreatic duct was not identified, but, in view of the normal pancreatic tail, a search for the duct or resection of the tail was deemed unnecessary. To remove the tumor, it was necessary to take out large sections of the mesocolon, but without significant interruption to the vascular supply of the transverse colon.

The immediate postoperative course was uneventful, and the patient was discharged on December 7, 1948. She was re-admitted on December 30, 1948, with symptoms and signs of pulmonary embolism and infarction. Following anticoagulant therapy, the infarct gradually resolved, no further embolic phenomena appeared, and she

one main compartment to the cyst with several small communicating locules in the wall. It contained about 1000 ml. of dark gray fluid. Amylase determination on the fluid showed 24 units. The wall was inelastic and averaged 0.2 cm. thick. For the most part, the lining was smooth, glistening, and pinkish-gray with numerous small blood vessels traversing immediately beneath it. In one area a soft, somewhat friable, papillary mass measuring 5 x 4 x 2 cm. projected into the cavity. Similar but smaller papillary tumors were found in other parts.

Microscopic study revealed a dense, fibrous wall lined by a single layer of tall columnar cells having clear cytoplasm and small, basally located nuclei. At the edge of the papillomatous structure these cells underwent transformation into large, hyperchromatic, irregular cells showing loss of

nuclear polarity. These cells were arranged in fine papillary folds with thin, fibrous tissue cores. In some regions, the lining cells were piled up into several layers, although most of the fronds were covered by merely a single or double layer. Mitoses were fairly numerous. Near the edges, typical glands of adult pancreatic duct type were noted in the wall and septa. There was little sig-

showed glands of typical pancreatic duct type in its wall, although the numerous locules of the cyst were lined by flattened cells, a change presumably the result of pressure. Whether or not this cystadenocarcinoma was initially benign, with subsequent malignant transformation, cannot be

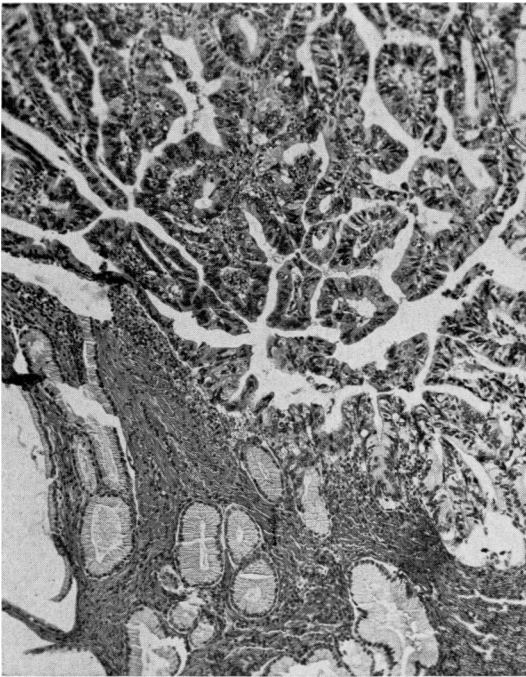


FIG. 3

FIG. 3.—From the edge of the papillary mass. In the wall are several well-formed glands of pancreatic duct type. Portions of small locules are also included and lined by a single layer of tall columnar epithelium. The contrast between the benign structures and malignant cells is apparent.



FIG. 4

FIG. 4.—A higher magnification to show the variability of cellular structure in the carcinomatous portion.

nificant invasion at the bases of the papillomatous foci. The small locules were lined by pale staining, tall columnar cells of pancreatic duct type. Two mesenteric lymph nodes were essentially negative.

DISCUSSION

The origin of these cysts has been attributed to misplaced embryonic cells, and to proliferation of either pancreatic acinar or duct epithelia. In our case, there was distinct histologic evidence of a definite derivation from pancreatic ducts. An example of benign cystadenoma studied by us also

answered with certainty. However, the fact that extensive portions of the cyst were histologically benign is suggestive of a carcinomatous change in a pre-existing cystadenoma.

Diagnosis and therapy are mentioned only briefly, since these have been discussed in detail in the article of Kennard. The most important symptom is a large, slowly growing, non-tender, upper abdominal mass appearing most often in middle aged or elderly women. Pain may or may not be present. The differential

diagnosis includes ovarian cyst, mesenteric and omental cysts, pedunculated uterine leiomyoma, aortic aneurism, retroperitoneal tumor, and hydronephrosis. Differentiation from a benign pancreatic cyst can be made only after removal, in the absence of obvious invasion or demonstrable metastases.

The best therapeutic procedure in neoplastic pancreatic cysts is complete surgical extirpation. Marsupialization, cystogastrotomy or similar methods are poor substitutes because of the possibility of multiloculation or malignancy. Since lamination of the cyst wall may be a factor in determining feasibility of complete excision, it seems wise to dissect carefully for this potentiality before any opening is made into the cyst.

Little can be said with respect to prognosis, since so few cases have been observed and followed. Kennard, however, did believe that a malignant change in a pancreatic cystadenoma was rare in contrast to the frequency of such a malignant transformation in papillary cystadenomas of the ovary.

SUMMARY

A case of papillary cystadenocarcinoma of the pancreas with successful surgical excision is presented. The patient is free from recurrence or demonstrable metastases three years later.

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