ENTEROGENOUS CYST OF THE DUODENUM*

A CASE REPORT

HARRY GORDIMER, M.D., AND LEON BLUESTONE, M.D.

NEW YORK, N. Y.

FROM THE SURGICAL SERVICE OF THE LINCOLN HOSPITAL, NEW YORK

Because of its rarity, a case of enterogenous cyst of the duodenum is of sufficient interest to be reported. We have found only 18 cases previously reported in the literature.[1-18]

CASE REPORT

L. D., a 30-year-old white female, was admitted to the Lincoln Hospital on December 20, 1948, complaining of generalized abdominal pain for 3 days. She had been nauseated during this time but had vomited only once, on the morning of admission, after which the pain shifted to the right lower quadrant of the abdomen. For the past 2 years there had been attacks of mild indigestion.

Physical Examination. The patient was well-nourished and fairly comfortable. The temperature was 101.8 F.; pulse, 116; respiration, 24; blood pressure, 100/60. The positive findings were limited to the abdomen. There was moderate tenderness, rebound tenderness and slight muscle guarding in the right lower quadrant. The white blood count was 10,000; 90 per cent polymorphonuclear leukocytes, 2 per cent bands, 7 per cent lymphocytes, and 1 per cent monocytes. Hemoglobin, 12.9 Gm. and red blood cells, 3,600,000. The urinalysis was negative. A preoperative diagnosis of acute appendicitis was made.

Operation. Through a McBurney incision, the abdominal cavity was found to contain a moderate amount of clear serous fluid. The appendix was small and atrophic. A Weir extension was made and a small ruptured Graafian follicule was visualized in the right ovary. However, on further exploration, a mass was palpated in the right gutter retroperitoneally. The McBurney incision was then extended cephalad to the costal margin, cutting across the oblique and transverses muscles, to obtain better exposure. The lateral peritoneal fold of the right colon was incised, and by blunt dissection, the mass was exposed behind the right colon extending up to the level of the hepatic flexure. The mass was one and a half times the size of a normal kidney and felt cystic. There was marked edema of the tissues about it. The right kidney was palpated above and behind the mass. The stomach was visualized and traced to the pylorus. It then became evident that the mass was a tremendously dilated second portion of the duodenum. A polypoid, cystic mass, oval in shape and mobile, could easily be palpated through the wall of the second portion of the duodenum. The gallbladder appeared slightly thickened and the common duct was slightly dilated, but there were no stones palpable in either of these structures. The pancreas felt indurated and nodular. The area was packed off and the second portion of the duodenum was opened through a 6 cm. longitudinal incision in its anterior wall. A large polypoid cystic mass measuring 4 cm. wide by 8 cm. long was found within the lumen of the duodenum, attached to the posterior wall of the duodenum (Fig. 1). It could not be emptied by compression. The wall of the cyst was congested and presented a small area of gangrene at its fundus. There was a pin head sized opening at the middle of its right side which drained bile. When probed, this was seen to be the termination of the common bile duct. The cyst was opened at its fundus and was found to be filled with bile.

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There were about two dozen facetted gall stones in the lumen of the cyst. Duodenal mucosa appeared to line both the inside and outside of the cyst. The pancreatic ducts were not found, nor was the opening from the common bile duct directly into the cyst visualized. Most of the cyst wall was excised, except the portion containing the termination of the common bile duct, and the small remaining portion of the cyst wall was sutured with interrupted 00 chromic. The common bile duct was then opened above the duodenum and a T tube inserted for decompression. The duodenotomy was then closed with two layers of sutures. Three drains were inserted in the retroperitoneal area and the abdomen closed in layers.

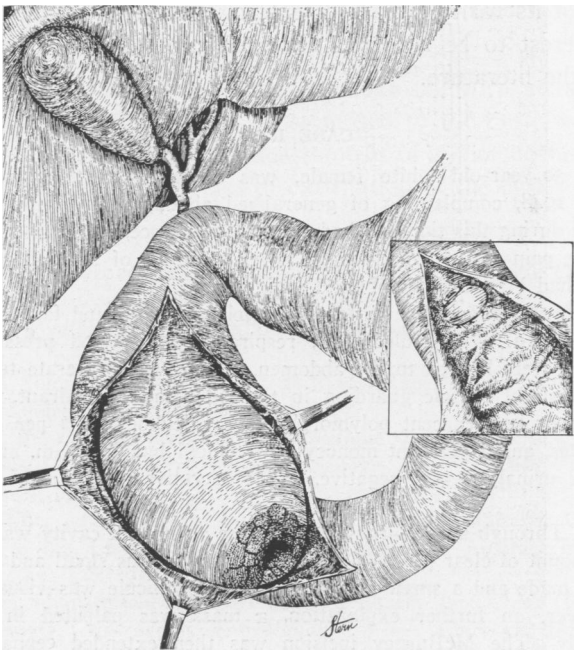

FIG. 1.—Artist's sketch of the findings at operation. The duodenum is open, revealing the cyst arising from the posterior wall, with the common bile duct on its anterior surface, and containing gall stones. Insert reveals the appearance after excision of the cyst wall.

The patient made a completely uneventful recovery. Cholangiograms taken on the twelfth postoperative day showed easy passage of the diodrast into the duodenum, and the T tube was removed on the fifteenth day. Gastro-intestinal roentgen ray series at this time showed only slight dilatation of the second portion of the duodenum. When seen 20 weeks after discharge from the hospital, the patient was asymptomatic and had gained eight pounds in weight.

Microscopic examination of the cyst wall revealed it to be lined on both the inside and outside with typical and identical duodenal mucosa (Fig. 2). This has been the case in all enterogenous cysts of the duodenum in which the microscopic appearance has been reported. Separating the mucosal layers was a thin muscularis mucosae. Thus this cyst was of the submucous variety.

Enterogenous cysts are always lined with intestinal mucosa, although it does not always correspond to the mucosa of the intestine adjacent to the

cyst. The fluid contained within these cysts has been clear and serous with the exception of the three that were located at the ampulla of Vater and contained bile.[12, 14] This case is the only one reported to contain gall stones. The cysts may be attached to any portion of the duodenal wall. The majority were attached to the posterior wall, especially those in the second portion of the duodenum. They may be of the submucous, intermuscular or of the subserous variety.

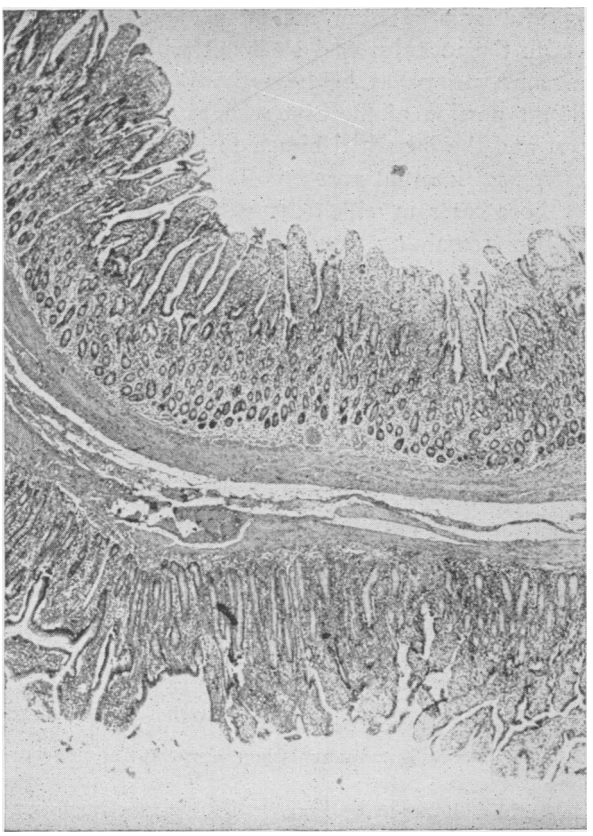

FIG. 2.—Photomicrograph revealing the wall of the cyst, lined on either side by duodenal mucosa with a thin layer of muscularis mucosae separating the mucosal layers. (Harold H. Briller, M.B.P.A., New York, N. Y.)

Enterogenous cysts of the duodenum may remain dormant for long periods of time and produce no symptoms. On the other hand, they may produce symptoms of obstruction, pain, and a palpable epigastric or right upper quadrant mass from time of birth. Those cases which are seen in infancy are usually diagnosed as hypertrophic pyloric stenosis. Ten cases[1, 5, 7, 9, 11, 15] have been reported in patients under four months of age. Of these, two[1, 2] were in newborn; one[3] was not operated upon and died 30 days after admis-

sion to the hospital; four[4, 5, 7, 10] were operated upon and died shortly thereafter; and three[9, 11, 15] were operated upon and recovered—presenting a mortality of 70 per cent in this group. In sharp contrast is the group of nine patients, ranging in age from four and one-half to 69 years, who were operated upon with no mortality.

The treatment of choice is resection of the cyst with or without adjacent duodenum. It is sometimes impossible to remove the cyst in its entirety without resecting a portion of the duodenal wall, and for this reason, enterogenous cysts must be differentiated from mesenteric cysts, which do not have a common wall with the intestine and shell out without difficulty. If the cyst is of the submucous variety, as in the authors' case, it is necessary only to remove a sufficient portion of the cyst wall to establish free communication between the cyst and the intestinal lumen to insure adequate drainage. This produces, in effect, an internal anastomosis between the cyst cavity and the duodenum. In those cases in which the cyst can be dissected out, one must be certain that the remaining duodenal wall retains sufficient strength to withstand intraduodenal pressure. If resection or internal anastomosis is not feasible, gastroenterostomy will relieve the obstruction and may achieve a satisfactory result.[9] Complete or partial marsupialization was carried out in three cases but was attended by 100 per cent mortality.[4, 7, 10]

SUMMARY AND CONCLUSIONS

1. The nineteenth case of enterogenous cyst of the duodenum, and the only one containing gall stones, is reported.

2. The salient features of those cases which have been reported in the literature are reviewed.

3. The prognosis depends upon the age of the patient at the time that symptoms necessitate surgical intervention.

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The American Goiter Association again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association which will be held in Columbus, Ohio, May 24, 25 and 26, 1951, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy in duplicate sent to the Corresponding Secretary, Dr. George C. Shivers, 100 East Saint Vrain Street, Colorado Springs, Colorado, not later than March 1, 1951. The committee who will review the manuscripts is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for presentation of the Prize Award Essay by the author, if it is possible for him to attend. The essay will be published in the annual Proceedings of the Association.