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Renal Cell Carcinoma Masquerading as a Pancreatic Pseudocyst: A Case Report

Stuart J. Kingma, M.D.* and Hubert M. Allen, M.D.*

A case is reported in which an abdominal mass was treated initially as a traumatic pseudocyst of the pancreas. Subsequent studies elucidated the true nature of the lesion, a renal cell carcinoma. The use of visceral arteriography as a definitive diagnostic tool is illustrated by this case.

Errors in diagnosis and inaccurate surgical judgement at the operating table can easily lead to an inappropriate operative procedure. The consequence of this is, at the very least, the creation of a diagnostic and therapeutic conundrum for subsequent examining physicians. At the worst, it may foreshorten the life of the patient. The following interesting case illustrates this problem.

Case Report

Mrs. P.L. was referred to the Hematology Department of the Henry Ford Hospital in March, 1970, because of unexplained nausea, vomiting, weakness, and anemia. She was a 28-year-old female, gravida V, para IV, who had enjoyed good health until 1965. Hemorrhage from a miscarriage in that year necessitated several blood transfusions. She had been involved in an automobile accident in 1966, with bruising trauma to the left upper quadrant of her abdomen, but apparently no serious injury. During this period, she denied any problems with heavy menstruation or gastrointestinal bleeding. At the end of 1966, when she had a hemoglobin of 11 grams %, she was started on oral iron, remaining on iron therapy until the present admission.

In June, 1969, she presented at another hospital with symptoms of abdominal pain, nausea, and vomiting. Her hemoglobin was reported as normal. An upper gastrointestinal series demonstrated a mass in the area of the pancreas, which was presumed to be a traumatic pseudocyst of the pancreas. Her symptoms persisted and, in November, 1969, she underwent an operation for this problem. An apparent hemorrhagic pseudocyst of the pancreas was encountered and drained by gastrocystostomy. During the postoperative period, there was minor but persistent evidence of upper GI bleeding. She received a total of 3500 ml of whole blood during this hospitalization. At the time of her discharge, her hemoglobin level was 9.8 grams % and her hematocrit was 30%.

Following discharge from that hospital, she felt well for a short time, but then began to have a recurrence of her abdominal pain, which was mainly in the left upper quadrant and constant. Nausea associated with this pain frequently resulted in the vomiting of “coffee ground” material. In February, 1970, she was re-admitted to the hospital for studies. Her hemoglobin was reported between 7 and 8 grams %, and an upper GI series showed “several pressure defects in the stomach, and displacement of the stomach to the right and anteriorly.” It was thought by her surgeon that this stomach displacement represented a recurrence of the pancreatic pseudocyst. At this time, she was referred to the Henry Ford Hospital, principally for evaluation of her anemia.

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Physical examination on admission disclosed a pleasant young woman, pale, but in no acute distress. The lungs and heart were clear. Abdominal examination elicited tenderness in the left upper quadrant and in the left flank, with a palpable, rounded mass in that area, situated posteriorly. There were no pulsations or bruits detected. Her liver was slightly enlarged.

Initial laboratory studies revealed a hemoglobin of 8.3 gms %, a hematocrit of 28%, a serum iron of 27 µg %, and a total iron binding capacity of 247 µg %. A bone marrow aspiration was consistent with iron deficiency anemia. Prothrombin time, blood sugar, blood urea nitrogen, serum creatinine, uric acid, amylase, lipase, electrolytes and total cholesterol were all within normal limits. Coagulation studies were normal and the serum protein electrophoresis showed a low albumin (2.88 gms %), a mild increase in the globulins and a normal total protein level. Urinalysis revealed a moderate number of leucocytes (8-10 phf) and an occasional erythrocyte. Stools were positive for occult blood.

Radiographic studies performed included chest x-ray, oral cholecystogram, metastatic survey, and liver scan. All were considered normal. The barium enema demonstrated extrinsic pressure along the medial border of the proximal descending colon from a large retroperitoneal mass (Figure 1). An upper gastrointestinal series revealed coarse, radiating folds around a posterior, mid-gastric ulceration, and a mass-pressure effect in this area, most likely representing an inflammatory mass communicating with the pancreas (Figure 2). Intravenous pyelography unmasked a large left renal mass, distorting the calyceal pattern and consistent with a neoplasm or cyst of the kidney (Figure 3). Selective visceral angiography revealed (1) carcinoma of the left kidney, (2) findings which were suggestive of telangiectasia in the liver, and (3) a normal pancreatic vascular pattern, without evidence of cyst formation.

With these findings, consideration was given to the possibility of von Hippel-Lindau's disease, which may include cysts of the pancreas, carcinoma of the kidney, and cysts or telangiectasia in the liver, retina and cerebellum. A consultation with the Ophthalmology Department indicated that the retinal examination was normal.

During surgery on April 9, 1970, the abdomen was explored through a left subcostal incision. A large retroperitoneal tu-
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Intravenous pyelogram showing the left renal tumor.

Figure 3

The posterior wall of the stomach was adherent to the upper surface of the tumor and black suture material was seen around the margin of this "anastomosis." The pancreas was normal but displaced upward by the tumor (Figure 4). Several paraaortic lymph nodes in the region of the left renal pedicle were enlarged. A left nephrectomy was then accomplished with removal of a cuff of normal stomach wall around the ulcerated gastro-renal adhesion. Biopsies were taken from liver and paraaortic lymph nodes. The kidney specimen measured 18 x 8 x 6 cm and weighed 950 gms (Figure 5). Transection of the tumor revealed its substance to be soft, friable and necrotic. Histopathologic examination established this to be a renal cell carcinoma with venous invasion. The lymphadenopathy was simply reactive hyperplasia and the liver sections showed a non-specific triaditis, with no evidence of telangiectasias.

The patient's postoperative course was complicated by a left lower lobe pneumonitis, which responded rapidly to antibiotics and pulmonary toilette, and by an infection arising in the bed of the dissection. This was gradually resolved with appropriate antibiotics, and she was discharged five weeks after her operation.

Figure 4

Drawing which illustrates the relationship of the stomach, pancreas and colon to renal tumor.

Figure 5

Left nephrectomy specimen with arrow indicating a portion of the gastric cuff at the "anastomosis."
Kingma and Allen

She was re-admitted some two and one-half months later for evaluation of increasingly severe back and left flank pain. Studies at this time did not demonstrate metastatic disease. However, she was started on Depo-Provera 400 mg I.M. once a week on the assumption that her pain was likely due to local recurrence of the tumor. At last contact, some six months after her operation, she had enjoyed a good response to this therapy with regression of pain and a return of well-being.

Discussion

This case has interest for several reasons. It serves, first, to point up the need for adequate preoperative evaluation of any intra-abdominal mass lesion. The finding of a posterior mass displacing the stomach should be pursued by means of intravenous pyelography and a colon study. Failure to delineate the nature of a retroperitoneal mass by these means is a prime indication for selective visceral arteriography. In this case the IVP did demonstrate the neoplasm and the arteriograms showed both an abundance of “tumor vessels” in the renal arterial bed and a normal pancreatic vasculature.

A second facet of surgical responsibility must be exercised at the operating table, namely, the careful and thorough assessment of all palpable structures in the operative area, in this case the abdomen. Preoperative “labeling” can easily result in the misinterpretation of operative findings, closing the mind to the unexpected and the surprising. In this case, the assumption that a pancreatic cyst would be found was reinforced by the soft rounded prominence encountered behind the stomach. This presumption led to a surgical procedure that was not definitive, necessitating additional operative treatment for a serious lesion.

Conclusions

1. A woman presented her physician with a history of blunt abdominal trauma and a mass behind the stomach. This presumed pseudocyst of the pancreas was drained by “cystogastrostomy.” It was later shown to be a renal cell carcinoma, and resected.

2. That any abdominal mass requires for its elucidation at least intravenous pyelography and complete gastrointestinal radiography has again been emphasized. When these studies fail to provide definitive information, selective visceral arteriography is indicated.

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REFERENCES

