Carcinoma of the Head of the Pancreas: A Review of Forty Cases

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INTRODUCTION

Our interest in the subject of carcinoma of the head of the pancreas was aroused some years ago because it mimicked other abdominal disease and it seemed to be a very obscure type of abdominal neoplasm. Our greatest surprise came in several cases of supposed duodenal ulcer in people in middle life. There was a story of ulcer pain, usually the first episode, and indirect evidence of duodenal ulcer in that a deformed and irritable duodenal cap was found on fluoroscopy and X-ray. Improvement did not occur and after a period of one to two months jaundice and an abdominal mass appeared. There were other cases where the story suggested abdominal neoplasm but repeated gastro-intestinal X-rays were negative. After months of intractable abdominal discomfort and pain an exploratory laparotomy or the clinical course disclosed carcinoma of the head of the pancreas.

We have followed the same criteria in classifying carcinoma of the head of the pancreas as Graham describes in his work on disease of the liver and biliary passages.

Graham (1) states that “within an area having a radius of not more than 0.5 ems., a carcinoma may arise in anyone of the following structures: (1) the ampulla of Vater, (2) the end of the common bile duct, (3) the end of the duct of Wirsung, (4) the glandular tissue at the head of the pancreas, (5) the duodenal mucous membrane covering the biliary papilla.”

Leven (2) in a review of 678 cases of primary carcinoma of the pancreas stated that 56.3 per cent were in the head of the gland and 30.7 per cent were diffusely spread through the pancreas.

Our series comprises forty cases, fourteen proven by autopsy and the remainder by operation. Of the cases operated upon twelve had biopsies. The remaining fourteen cases showed not only a mass in the head of the pancreas but also abdominal metastases. Eleven of these operated cases died in the hospital within a period of time varying from a few days to a month. One patient died at home within two months. Only two patients were discharged and we were unable to obtain a follow-up as the cases occurred in 1926. A period of time varying from a few days to a month.

One patient died at home within two months. Only two of these operated cases died in the hospital within a period of not more than 0.5 ems., a carcinoma may arise in anyone of the following structures.

INCIDENCE

The greatest number of cases occurred in the sixth decade, more than 50 per cent. The youngest patient was thirty-six years of age and the oldest was seventy-seven years. Grouped according to decades, the age incidence is as follows:

4th decade .............. 3 cases
5th decade .............. 4 cases
6th decade .............. 22 cases
7th decade .............. 8 cases
8th decade .............. 3 cases

There were twenty-three males and seventeen females. Only two negro patients were present in this group, one male and one female.

PAST HISTORY

Eight patients gave a past history of a gastric illness. Four cases had previous gall bladder disease with colic and two of these had a cholecystectomy performed with relief of symptoms. One patient had an attack of jaundice about one year prior to the carcinoma and at autopsy a definite cholecystitis was seen. Three patients had recurrent indigestion; one of these had an ulcer syndrome.

SYMPTOMATOLOGY

Thirty-three cases had symptoms four months or less. Two had symptoms for as long as eight months. More than 25 per cent had symptoms of a month or less on admission. Often an acutely developing jaundice would cause them to seek medical advice. The various periods of duration of symptoms may be classified as follows:

1 month — 12 cases
2 months — 8 cases
3 months — 7 cases
4 months — 6 cases
5 months — 3 cases
6 months — 1 case
7 months — 1 case
8 months — 2 cases

The most common symptoms were abdominal pain, jaundice, severe weight loss and a change in bowel habit. A few cases presented a painless jaundice. About 30 per cent of the cases complained of severe abdominal pain, marked weight loss, and constipation without the presence of jaundice. These were the most difficult to diagnose because the X-ray often failed to reveal any localizing lesion.

(1) Abdominal Pain. This occurred in thirty-four cases (85 per cent). The most common type of pain was a cramp-like epigastric pain (16 cases). In three cases this pain was aggravated by food. In seven cases this pain radiated to the lumbar area. At times the pain radiated down over the entire lower abdomen. A gall bladder type of pain with attacks of colic in the right upper quadrant occurred in eight cases. Five of these radiated to the right costovertebral area and two
Plate 1. Widening of the duodenal curve and obliteration of the markings on the medial aspect of the first and second portions of the duodenum. 

Plate 2. Constriction of the middle of the second portion of the duodenum with dilatation of the first and second portions of the duodenum.

radiated to the right scapula. Five cases had an ulcer type of pain and one of these had pain radiating to the lower dorsal spine. Three cases complained only of a dull constant pain in the lumbar spine. But there were fourteen cases in which the pain radiated to the back. A burning umbilical pain occurred in two cases and in one of these it radiated to the back. There was no definite pathological basis for the different types of pain. In those cases with the ulcer type of pain only one had ulceration of the duodenum. On the other hand there were four other cases of invasion of the duodenum or stomach which did not have ulcer type of pain. In the cases with the gall bladder type of pain only one had gall stones. 

(2) Jaundice. This was present in twenty-eight cases (70 per cent) and three more cases became jaundiced after admission. The jaundice was usually present a shorter time than the pain. Twenty-three cases were less than six weeks in duration, three cases were of three months duration, and two cases were of five months duration. Two patients showed a marked diminution in the jaundice after its onset. Five cases were associated with chills and fever. One of these had cholecystitis, two had gall stones, one had a lung abscess, and in one case nothing was found to account for the chills and fever. 

(3) Severe Weight Loss. Marked loss in weight occurred in twenty-four cases (60 per cent). This sometimes was present before the onset of pain or jaundice. It varied from ten to eighty pounds, and most of the cases lost more than twenty pounds. 

(4) Changes in Bowel Habit. A change in bowel habit was noted in fourteen cases. Marked constipation occurred in nine cases and in conjunction with the abdominal pain it raised the suspicion of colon neoplasm. Diarrhea was present in four cases and one case had both constipation and diarrhea. 

(5) Reflex Gastric Symptoms. Nausea and vomiting occurred in fourteen cases. Two cases, in the advanced stages, had bloody vomitus. Ten cases complained of anorexia in addition to the above mentioned symptoms. 

(6) Fever. Six cases noted fever in addition to the other complaints. One case had an undetermined fever for eight months as an outstanding complaint. This case also had an enlarged spleen and was treated at another hospital with X-ray for Hodgkin's disease. At autopsy a double carcinoma was found, one at the head of the pancreas and the other in the left ureter. 

PHYSICAL EXAMINATION 

(1) Temperature. A temperature reaction was noted in 50 per cent of the cases and varied from 101° to 103°. In the majority no cause was found for the temperature reaction but in a few it was explained on local pathology in the biliary tract and pancreas such as gall stones, cholecystitis, cholangitis, pancreatic abscesses and pancreatic calculi. 

(2) Jaundice. Jaundice was present in twenty-eight cases on admission and was a later development in three more cases. Eusterman and Wilbur (3) list thirty-three cases of carcinoma of the head of the pancreas without jaundice in a group of 403 cases of primary carcinoma of the pancreas. 

(3) Enlarged Liver. An enlarged liver was found in twenty-seven cases. The enlargement varied from a short distance below the costal margin to the umbilicus. It was usually hard and smooth. In two cases only was it described as nodular. 

(4) Enlarged Gall Bladder. An enlarged gall