

TRAUMATIC RUPTURE OF THE PANCREAS

Report of a Case

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Traumatic rupture of the pancreas without complicating injury to other abdominal organs is a rare condition and prompts the report of this case. With the recent popularity of the bicycle it may be that we can anticipate an increasing number of patients injured in the abdomen without much evidence of external injury from being struck with the end of the handlebar.

I am indebted to Dr. Norvin Keifer of Geneva, Ohio, for the privilege of seeing this case and for the report of the postoperative care.

CASE REPORT

A white boy, eight years of age, was admitted to the Community Hospital in Geneva, Ohio, at 11:00 a. m., July 23, 1939, with the complaint of having hurt his abdomen in a fall from a bicycle.

The past history was negative except for the usual childhood diseases. He had had convulsions from ingestion of certain foods during infancy and has had a moderate number of gastro-intestinal upsets since that time. Four years ago he had a tonsillectomy, followed by severe postoperative hemorrhage, necessitating a blood transfusion.

The present history dated back one hour, at which time he fell while riding a bicycle. He stated that in turning his bicycle, he had caught the left handlebar in his left trousers pocket and the bicycle had then tipped over in such a manner that the left handlebar was under him while the remainder of the bicycle was on top of him.

There had been no nausea, vomiting, loss of consciousness, or other symptoms except pain, which he had had since the accident. Examination at this time revealed a white boy who was in a moderate amount of shock. The blood pressure was 120/90, pulse rate 110, respiration 22, and temperature 98.0° F. Systemic examination revealed no findings of significance except a moderate amount of tenderness in the upper left quadrant without any rigidity or mass. There was no external evidence of injury. Shortly after the examination, the patient vomited a small amount of undigested food. The blood counts on admission showed 4,390,000 red cells, 82 per cent hemoglobin, and 15,000 white cells with 65 per cent polymorphonuclears. The patient was put to bed for observation and in an hour was quite comfortable. However, the white count had increased to 24,000 with 83 per cent polymorphonuclears.

Three hours after admission the patient complained of a little more pain, the pulse was 130 and blood pressure 112/78. Five hours after admission the condition was unchanged. Abdominal examination showed only a slight tenderness in the left upper abdomen.

Dr. E. H. Merrel was then asked to come into surgical consultation at this time. He agreed that the picture was not of a ruptured abdominal viscus or of hemorrhage and, in view of slight improvement, which was taking place, felt that conservative treatment and observation was indicated.

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The patient had a comfortable night and the following morning his general condition was quite satisfactory. Examination of the abdomen again revealed no rigidity and only slight tenderness in the upper left quadrant. At this time there was visible a very small area of ecchymosis in the left abdomen opposite the umbilicus in the anterior axillary line. The pulse was 160, temperature 100.6° F., and blood counts showed 15,000 white cells with 88 per cent polymorphonuclears.

At 3:00 p. m. in the afternoon, about 30 hours after the injury, the patient became very restless and complained of nausea and difficulty in breathing and began to complain bitterly of severe pain in the left shoulder. At this time the temperature was 101° F., pulse 124. Examination of the abdomen revealed a generalized rigidity which was moderate over the entire abdomen and marked in the upper left quadrant. The white count now was 19,500 with 91 per cent polymorphonuclears.

At this time it was apparent that an exploratory operation was indicated and I was asked to see the patient. I concurred in the opinion that exploration was indicated and accordingly, at 6:00 p. m., 38 hours after the injury, I opened the abdomen under ether anesthesia. An upper left rectus incision was made. On entering the abdominal cavity, there was a slight amount of serosanguinous fluid apparent. There was no gas in the abdominal cavity, but one was immediately impressed with the multiple areas of fat necrosis throughout the gastrohepatic omentum and the great omentum. cursory examination showed no injury to the intestines. The spleen was normal and there was no rupture of the liver. Further examination revealed some bloody fluid in the lesser peritoneal cavity and considerable ecchymosis at the root of the mesentery of the small bowel. This was in the region of the superior mesenteric vessels. The lesser peritoneal cavity which was opened between the stomach and the colon revealed a moderate amount of dark bloody fluid. We could then see that there was marked contusion and rupture of the middle third of the pancreas. The contused area was approximately two inches in diameter. There was no occasion to suture the pancreas. Three Penrose drains were placed down to the injured viscus and the abdomen closed with through and through figure-of-eight sutures of chromic catgut. The entire anesthetic period was 45 minutes. The pulse rate of 132 at the beginning of the operation rose to 200 at the conclusion. The patient's condition was not good when he was returned to his room. He was given intravenous glucose, followed by saline hypodermoclysis.

The convalescence ran a very stormy course for about twelve days. On the eighth day, the temperature suddenly rose to 105° F. Nothing was demonstrable in the chest or abdomen to account for the finding. There was profuse drainage of clear pancreatic fluid. At the end of two weeks, the boy's condition was definitely improved. Six weeks after the operation there was a decrease in the amount of drainage of pancreatic fluid but there was a slight amount for four more weeks, a total of ten weeks before it finally ceased entirely. No ventral hernia was apparent at the time of discharge ten weeks following operation. Four determinations of the blood sugar were made during the postoperative course and were found to be normal. On dismissal, the fasting sugar was 103 mgm. After the ingestion of 75 gm. of glucose, the blood sugar was 154 mgm., two hours later it was 124 mgm. The boy's general condition at the time of dismissal was excellent.

It is conceivable that there may be many injuries to the pancreas of a lesser degree that may recover spontaneously after days or weeks of illness, with the resultant cyst formation in later years.

In reviewing the literature, the symptoms calling for operation may occur at varying periods from days to weeks and this, of course, is in direct relation to the amount of damage done to the pancreas. When there has been sufficient leakage of pancreatic juice to cause fat necrosis, the abdominal signs and symptoms of pain and rigidity rapidly result. It is also worthy of note that all cases have a very severe reaction post-operatively similar to this case for days up to a week or so.

SUMMARY

The significant points in the case reported are the severe injury produced to the pancreas with only a small ecchymotic spot as external evidence of injury and the keen observation of the attending physician at frequent intervals following the injury. His prompt recognition that a sudden change had taken place calling for early surgical intervention was instrumental in saving the boy's life.

REFERENCES

- Christopher, F.: Textbook of Surgery, 2nd ed. W. B. Saunders Co., Philadelphia, 1939, p. 1279.
Newton, Alan: Case of successful end-to-end suture of the pancreas, Surg., Gynec. & Obst., 48:808-810, (May) 1929.
Stern, E. L.: Traumatic injuries to the pancreas, report of a case: recovery, Am. J. Surg., 8:58-74, (January) 1930.
Brown, O. H. and Barlow, L. C.: Accidental division of the pancreas, J.A.M.A., 98:1882-1883, (May 28) 1932.
Mayo, H. R. and Ellis, E. A.; Case of traumatic pancreatitis, Lancet, 214:495-496, (March 10) 1928.
Makins, G. H.: Injuries to the spleen and pancreas, Brit. J. Surg., 3:654-656, 1915-16.