Case Report

TRAUMATIC EARLY PSEUDOPANCREATIC CYST

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Abstract

A case of Pseudopancreatic cyst occurring early following upper abdominal trauma is described. The features which lead to early diagnosis and treatment are discussed with a review of recent medical literature on the subject (JPMA 29:85, 1979).

Introduction

Pseudopancreatic cyst is an uncommon early complication of upper abdominal trauma. An awareness of the possibility helps in a confident diagnosis and early treatment. The following case is reported to highlight some of the features of this problem.

Case Report:

H. M., 25 years old male was admitted to Ist surgical unit, Nishtar Hospital, Multan on 4-11-1978. He gave a history of injury by the front pole of a tonga while he was riding a bicycle on the evening of 24-10-1978. The accident occurred in Lodhran Tehsil some forty miles from Multan. He gave a history of severe pain in the epigastrium, bursting in character, continuous, without radiation or referred pain in the back. The pain was relieved by drawing knees up. He vomited repeatedly on the Ist day and later immediately whenever he had something to eat or drink. He had some distension

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of abdomen but no absolute constipation. He had occasional fever, no urinary disturbance and had no loss of weight.

On examination on admission on 4-11-1978 i.e., 11 days after trauma he was found in severe pain with a dry tongue, slight pallor, no jaundice, no cyanosis, temperature 99.0°F, pulse 100 per minute, B.P. 100/60. He had bruising in epigastrium and ill-defined swelling in the epigastrium, 6 inches in diameter above the umbilicus. It was tense, not fluctuent, very tender, with guarding of muscles and was not mobile. On clinical features a diagnosis of pseudopancreatic cyst was made. He was treated by I/V fluid and naso-gastric tube aspirations. The pain remained intense throughout and he was restless even with aspiration and analgesics. On 8-11-1978, he was operated upon through an upper 4" long mid-line incision. The stomach was found to be pushed forward over an underlying tense swelling 8 inches in diameter. The peritoneal cavity had no fluid and showed no spots of fat necrosis. A transgastric cystogastrostomy was done. On opening of the cyst the edges of cyst and stomach were excised eliptically 4 cm in length and the stoma was sutured with catgut. The stoma admitted 1-1/2 finger. The fluid removed was clear two litres in amount. The cyst wall was substantial and was adherent to stomach. His intense pain was relieved soon after operation and he remained comfortable thereafter. He had uneventful recovery following operation and could take a normal diet after a week. His post-operative barium meal examination on 23-11-1978 showed no influx of barium in the cyst.

Discussion

Pseudocyst of pancreas are collections of fluid and debris in the region of pancreas or within its parenchyma. In contrast to true cyst, pseudocyst do not have an epithelial lining and disruption of the pancreatic ductal system is a pre-requisite. The fluid is rich in pancreatic enzymes but in long standing cases enzymes are not found (Maingot 1974). The incidence of pseudocyst is 80% of all cysts of the pancrease (Sankaran and Walt, 1975). Sankaran and Walt (1975) in their series of 131 cysts in 112 cases have described the positive factors (Table I).

Table I: Positive Factors

Aetiology	*No. of Patients*	*No. of Cysts*
Pancreatitis		
Alcohol	81	99
Cholelithiasis	5	5
Alcohol plus Cholelithiasis	14	14
Post renal transplantation	1	2
Pancreatic trauma	11	11

Thus 90% of pseudocysts occurred following pancreatitis of various causes, 10% were of traumatic in origin, about 50% due to blunt upper abdominal trauma so-called subcutaneous pancreatic injury and about 50% due to penetrating injuries to the pancreas. Kartzas (1976) has reported 6 cases of traumatic pseudocysts in their 27 patients, an incidence of about 24%. Bach and Frey (1971) have reported occurrence of four pseudocysts in 44 cases of trauma to pancreas, an incidence of 10.4%.

The time interval of development of a cyst in Kartzas (1976) series was between 3 weeks to 14 weeks with an average of 6 weeks. In the present reported case it is only few days i.e., it is remarkably a short interval for the development of the cyst. Here the important features are lack of shock, persistent severe pain not relieved by naso-gastric tube and appearance of a lump in the epigastrium within a few days. The symptoms and signs of a pancreatic pseudocysts reported by Sankaran and Walt (1975) are as follows:-

Table II: Symptoms and Signs of a Pancreatic Pseudocysts

Symptoms and Signs	*No. of Patients*	*Frequency in Determinate Cases %*
Pain	107	94
Nausea and vomiting	68	60
Anorexia	25	20
Weight loss	51	47
Diarrhoea	8	10
Fever	15	21
Mass	62	50
Tenderness	57	72
Ascitis	22	18
Jaundice	10	8
Paroxysmal hypertension	36	49

The complications noted in these cases are ruptures in peritoneum and in visera i.e. stomach, duodenum, jejunum and in spleen, in media stinum and right pleura. Gastrointestinal haemorrhage is common in cases not treated early by surgical means. High mortality is reported on account of haemorrhage — preoperatively 57% and post-operatively 64%. This suggests that waiting for the cyst to mature carries a high mortality of 61% therefore early operation is indicated (Sankaran and Walt, 1975). In our case the operation is done after two weeks, by this time cyst wal

has matured and gastrocystostomy was performed with ease but in other cases, we suggest that even an earlier operation would be safer than the conservative treatment.

The investigations helpful in these patients are:-

1. Radiographic aids: Barium meal shows anterior displacement of stomach and widening of loop of duodenum.

2. Intravenous Pyelogram shows pressure effects.

3. X-ray chest is helpful for diagnosing mediastinal; cyst and rupture of the cyst into right pleura.

4. Serum amylase is raised in 60% of cases but in normal level should not distract from diagnosis of a cyst. A repeated estimations of serum amylase level are more reliable (Bach and Frey, 1971).

In the treatment of pseudo pancreatic cyst Warren (1969) has reported the results of 70 procedures on cyst and chronic abscesses treated in between 1940-1965 (Table III).

Table III: Results of Seventy Procedures on Cyst and Chronic Abscesses Treated Between 1940-1965

Procedure	*No. of Patients*	*Satisfactory Result No.*	*Per Cent*
Internal drainage of a cyst	29	23	79
External drainage of a cyst	23	14	61
Drainage of abscess	14	10	71
Cyst excision	4	3	75
Total	70	50	71.4

Internal drainage gives the best results. Cystogastrostomy is a simple procedure, is quick and has a low mortality rate of 3%. Surprisingly, the food does not enter the cyst and drainage is efficient. The cyst shrinks in few weeks time. Recurrence of a cyst may occur if the stoma is not satisfactory or closes up. Therefore a piece of the wall of the stomach and cyst is removed just like taking a biopsy of the wall leaving a stoma 4 cm wide. The haemorrhage must be controlled by continuous suture preferably by non-absorbable suture but in our case and in 27 cases reported by Kartzas (1976) catgut was used with satisfactory results. Perhaps the pancreatic enzymes disappear from the cyst fluid within a short time unless there is obstruction of the pancreatic duct proxymal to a cyst at the same time. Cystoduodenostomy or cystojejunostomy is done if the cyst is in proximity to duodenum or jejunum. Drainage through Roux-in Y-Type of procedure is done when proximity is not at hand. External drainage by Marsupialisation carries the risk of skin necrosis and is not recommended. Drainage through a catheter or tube gives satisfactory results and is recommended when wall of the cyst is thin and friable particularly when the cyst is outside the lesser sac. A persistent fistula is rare, and if it does occur it can be transplanted into stomach or jejunum at a later date. A combination of internal and external drainage as reported by Rodney Smith has no particular advantage over internal drainage except that subsequent radiographic pictures of a cyst can be taken. It is preferred for infected cysts. Excision of the cyst is ideal but not practicable except in exceptional cases. Kartzas (1976) has reported successful excision of a cyst near porta hepatis and one cystin inguinal region.

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References

Bach, R.D. and Frey, C.F. (1971) Diagnosis and treatment of pancreatic trauma. Am. J. Surg., 121:20.

Kartzas, G.M. (1976) Pancreatic pseudocysts. Br. J. Surg., 63:55.

Maingot, R. Abdominal operations, 6th ed. New York, Appleton-Century Crofts, 1974, V.I.

Sankaran, S. and Walt, A.J. (1975) Natural and unnatural history of pancreatic pseudocysts. Br. J. Surg., 62:37.

Simpson, A. and Srivastava, V.K. (1973) Pseudocyst of pancreas. Br. J. Surg., 60:45.