PSEUDOCYST OF PANCREAS IN A CHILD FOLLOWING BLUNT ABDOMINAL TRAUMA

Wg Cdr KL SAMPATH KUMAR *

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Introduction

It is becoming increasingly clear that pancreatic pseudocysts are more common than was previously appreciated. The advent of sonography and computed tomography has greatly increased our knowledge of pancreatic pseudocysts [1]. However the pseudocysts of pancreas is quite rare in children especially following abdominal trauma. Only in 5 of 98 patients, on whom operation was carried out between 1977 and 1991 for pancreatic pseudocysts, there was a history of previous blunt abdominal trauma [2]. A case of pseudocyst of pancreas in a child following blunt abdominal trauma is reported.

Case Report

A 7-year old girl was brought to the hospital with the history of blunt injury to the upper abdomen. The injury was sustained on 22 March 99 when the child had a fall on the handle bar of a bicycle. At the time of presentation the child had pain in upper abdomen associated with nausea and vomiting. On examination the child's general condition was unremarkable. Examination of abdomen revealed tenderness in epigastric and umbilical regions. There was no distension of abdomen nor free fluid in the peritoneal cavity. Intestinal sounds were heard normally.

Relevant investigations, including urinalysis, haemogram, biochemistry, plain radiograph of abdomen, ultrasound examination of abdomen were normal. Estimation of serum amylase could not be done due to lack of facilities. The child was treated conservatively with parental fluids and analgesics and was kept under observation. The child had uneventful recovery and was discharged after five days of hospital admission on 27 March 99.

Following discharge the child remained asymptomatic for two weeks. The parents noticed a diffuse fullness in the upper abdomen and the child was brought to the hospital again on 12 April 99.

On direct questioning the child complained of discomfort in the upper abdomen, otherwise the child was asymptomatic. On examination the child's general condition was unremarkable. The child was afebrile and non-icteric. Examination of the abdomen revealed diffuse, soft, non-tender swelling in the epigastrium, upper umbilical region extending on to both hypochondria. No other mass was palpable. There was no free fluid in the peritoneal cavity. Normal intestinal sounds were heard. Relevant investigations like urinalysis, haemogram, blood biochemistry were all nor-

mal. Ultrasound examination of abdomen revealed evidence of pseudocyst of pancreas measuring 12.5 x 6 cm in the lesser sac. Barium meal examination was carried out which revealed anterior displacement of the stomach by a space occupying lesion lying on postero-inferior aspect of stomach, findings consistent with pseudocyst of pancreas (Fig.1). It was decided to keep the child under observation for four more weeks. At the end of four weeks, in view of persistence of pseudocyst of pancreas, the child was taken up for surgery. At surgery, there was evidence of pseudocyst of pancreas in the lesser sac. Hence cystogastrostomy was performed by opening the anterior wall of the stomach and incision through the posterior gastric wall into the cavity of the cyst. Suture anastomosis of the cyst wall with the posterior wall of the stomach was carried out. Careful haemostasis was obtained. The anterior wall of the stomach was resutured. Immediate postoperative period was uneventful. The child recovered well to be discharged on the eighth post-operative day. During follow up, the child remained

Fig. 1 : Barium meal radiograph showing pseudocyst of pancreas in lesser sac.

* Classified Specialist (Surgery), 12 Air Force Hospital, Gorakhpur-273002.

asymptomatic.

DISCUSSION

Pancreatic pseudocysts in children are rare. A total of 213 cases have been reported in the literature, the majority being secondary to trauma (65%) [2,3]. The pancreas is the fourth most commonly injured intra abdominal organ in children who sustain blunt abdominal trauma [4]. Here, in this case, when the child was admitted initially with the history of blunt abdominal trauma, the child was kept under observation to notice any untoward symptoms and signs. Since the child recovered well and the ultrasound examination of abdomen did not reveal any abnormality, the child was discharged from the hospital. The child was readmitted after about three weeks of abdominal trauma with the pseudocyst of pancreas. Most probably, the child must have developed pancreatitis following blunt abdominal trauma which was undetected at the initial admission. During the next three weeks time, slowly the fluid must have got collected in the lesser sac of the peritoneal cavity. About 54% of pseudocysts undergo spontaneous resolution in six weeks time. Hence in this case adequate time was given for spontaneous resolution to take place. Since it has not taken place, it was decided to take up for surgery. A great deal of controversy has surrounded the management of pancreatic pseudocysts. Proposals have ranged from prolonged observation [5] to immediate exploration [6] or to delaying drainage in order to promote maturation of the fibrous wall [7]. In view of the complications of untreated pseudocysts that occur in the natural history, non operative prolonged observation can no longer be justified. At present, the indications for surgery in pancreatic pseudocysts include i) pseudocyst enlarging over time. ii) evidence of secondary infection. iii) development of complications or iv) presumed duration of six weeks without resolution.

Acute collections frequently resolve spontaneously and an expectant regimen is generally accepted. However, the point at which an "acute" fluid accumulation becomes a "chronic" pseudocyst is a moot question. This is important because it implies both failure of spontaneous resolution and "maturity" of the cyst wall. The latter characteristic has been found to occur in man at about six weeks. The mature or solidly formed cyst wall lessens the complications of internal drainage procedure by providing sufficient thickness and

strength to hold sutures. Hence in this case around six week time was given for the maturation of cyst wall before taking up for surgery. In the elective surgical management of chronic pseudocysts, there are three primary methods, excision, external drainage and internal drainage. Excision is reserved for small cysts of the body or tail of pancreas with minimal attachment to adjacent organs. External drainage is preferred technique for infected cysts, cysts requiring emergent drainage before the 4-6 week period required for the maturation of the cyst wall.

Internal drainage is the method of choice for uncomplicated mature pseudocyst. Of the several methods of internal drainage, by far the most frequently used methods are transgastric cystogastrostomy and cystojejunostomy to a Roux en-Y-loop of jejunum. The specific type of internal drainage employed must be based upon the following fundamental principles: i) The anastomosis must be made to a mature fibrous cyst wall. ii) Selection of the specific technique depends on the size, location and adherence of the cyst wall. iii) Dependent drainage is desirable.

In this case, the pseudocyst of more than six weeks duration was in the lesser sac densely adherent to the posterior gastric wall. Hence transgastric cystogastrostomy was performed without any complications. In addition transgastric cystogastrostomy has the advantage of speed and ease of performance.

REFERENCES

1. Lotov AN, Andrinov VN, Kulezneva IV, Kuzin NM. Transcutaneous drainage of pancreatic pseudocysts guided by ultrasound and computed tomography. *J Clin Ultrasound* 1994 Jun;25 (5) : 334-7.
2. Zimmermann T, Henneking K, Kelm C, Padberg W, Schwemmler K. Pancreatic pseudocysts after blunt abdominal trauma. *J Trauma* 1993;34 (2) : 293-6.
3. Yeo CJ. Pancreatic pseudocysts, ascites and fistulas. *Br J Surg* 1994;81 (10):1525-8.
4. McGaughey ED, Magnuson D, Schiller RT, Tapper D. Management of transected pancreas in children. *Am J Surg* 1995; 61 (3): 206-9.
5. Butt J. Medical Management : Pancreatitis-pancreatic pseudocysts and their complications. *Gastroenterology* 1977; 76 : 600-3.
6. Becker WE, Pratt HS, Ganj H. Pseudocyst of pancreas. *Surg Gynae Obst.* 1968;127:744-52.
7. Cerelli J, Faris TD. Pancreatic pseudocysts: Delayed versus Immediate treatment. *Surgery* 1971; 615:541-51.