The Journal of Medical Research

Case Report

JMR 2018; 4(3): 113-116
May- June
ISSN: 2395-7565

www.medicinearticle.com
Received: 24-05-2018
Accepted: 12-06-2018

Treatment of pancreatic pseudocyst in a developing country: A case reports

Setondji Gilles Roger Attolou[1], Alexis Mupepe Kumba[2], Wilfried Elohonnan Gandji[1], Habib N'Domè Natta N'tcha[1], Tiani Marie-Gaston Agbo[1], Delphin Kuassi Mehinto[1]

1 *University Clinic of Visceral Surgery "B" at the National University Hospital Center Hubert Koutoukou Maga of Cotonou, Republic of Benin*

2 *Medical Technic's Institute of Uvira, Uvira, South Kivu province, Democratic Republic of Congo*

Abstract

Pancreatic pseudocysts occur more frequently following acute alcoholic pancreatitis than after biliary pancreatitis. Its frequency is estimated between 5 and 15% of cases in literature. We report 2 cases of pancreatic pseudocysts. One was diagnosed preoperatively by ultrasound and CT-scan and the other intraoperatively after an ultrasound diagnosis of liver abscess. We performed a cysto-jejunostomy in both cases. The postoperative course was uneventful in 2 cases, with resumption of transit on the 3rd postoperative day, recovery of oral feeding respectively the 5th and the 6th postoperative day. Cystojejunostomy is an efficient technique with low morbidity in the management of pseudo cysts of the pancreas, well suited for developing countries. It is relatively easy to perform and has the advantage of adapting to all cystic locations.

Keywords: Cysto-jejunostomy, Pancreas, Pseudocyst, Treatment.

INTRODUCTION

Pancreatic pseudocysts are collections circumscribed by granulation and fibrosis tissues and characterized by the absence of proper epithelium. They contain necrotic debris and rather amylase rich liquid. They occur more frequently following acute alcoholic pancreatitis than after biliary pancreatitis. Its frequency is estimated between 5 and 15% of cases in literature [1, 2]. Pancreatic pseudocysts can occur as a complication of acute or chronic pancreatitis. Diagnosis is most often accomplished by abdominal ultrasonography and abdominal contrast-enhanced computed tomography [3].

The internal drainage of the pancreatic pseudo cyst which is the standard method of treatment can be performed surgically or endoscopically [4].

Up to now, no randomized study has clarified the various indications of endoscopic and surgical treatment. The therapeutic strategy can therefore only rely on the experience of care teams and historical comparisons [5].

We report our experience on internal cystojejunal shunt for pancreatic pseudo cyst.

CASE REPORT

Case 1: A 43-year-old alcoholic (indigenous alcohol), farmer consulted for abdominal pain with cramps of moderate intensity, radiating to the right hypochondrium relieved by analgesics and progressively evolving for a month. The associated signs were early postprandial vomiting.The patient had a good general condition and his vitals were within normal range.

On examination of the abdomen, there was a voluminous mass sitting at the epigastrium and right hypochondrium, having 25 cm long axis, renitente, painless, mobile relative to the superficial plane and fixed relative to the deep plane. Biological screening was normal.

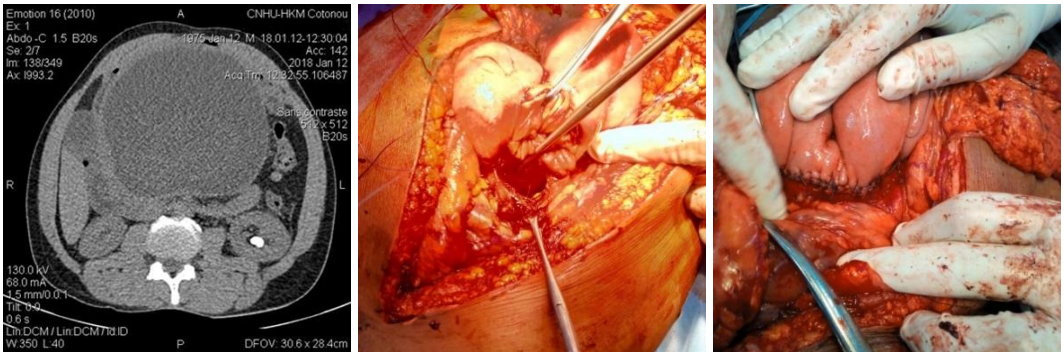
The abdominal ultrasound noted a voluminous cystic lesion involving the pancreas. The abdominal CT-scan showed two large cystic masses of the pancreatic body evoking necrotizing pancreatitis on

***Corresponding author:**
Dr. Alexis Mupepe Kumba
Medical Technic's Institute of Uvira, Uvira, South Kivu province, Democratic Republic of Congo
Email:
mupepekumba[at]gmail.com

chronic pancreatitis. (figure 1a) Exploration after laparotomy and opening of the gastrocolic ligament revealed a large pancreatic cyst with multiple transverse cystocolic adhesions.

We proceeded to emptying of 1500 cc of a bilious liquid of which 10 cc is taken for the cytological examination. We performed a cysto-jejunostomy about 30 cm from the TREITZ angle, Washing and drainage of the abdominal cavity. (Figures 1b and 1c)

Cytological examination of cystic fluid was positive with hyperleukocytosis, predominantly neutrophilic. The postoperative period was uneventful with a return of bowel function on the 3rd day, oral feeding authorized on the 5th day, removal of the abdominal drain on the 5th day and discharge on the 8th day.



(a) **(b)** **(c)**

Figure 1: a: pseudocyst on CT-scan; **b**: empty pseudocyst before anastomosis; **c**: cysto-jejunostomy

Case 2: A 28-years-old alcoholic (indigenous alcohol), farmer was referred from another peripheral hospital for better management of painful hepatomegaly.

The history revealed chills and undocumented fever starting two month back, associated with pain of the right hypochondrium radiating in the epigastric, cramp-like, of moderate intensity. Early postprandial vomiting, severe asthenia, anorexia and weight loss are also reported. The physical examination noted: A voluminous mass sitting in the right hypochondrium, elevating the liver, having 8 cm in diameter. Biological exploration was normal.

Abdominal ultrasound concluded to a large abscess of the right lobe of the liver. (figure 2) CT scan was not performed for lack of financial means.

Figure 2: Cystic masse on ultrasound confused with abscess

Exploration after laparotomy founded a liver of normal appearance, a dilated and tense gall-bladder, a renitent mass under the gastrocolic ligament. At the opening of the gastrocolic ligament, a large cyst of the head of the pancreas is discovered.

We extract 800 cc of a chocolate-looking liquid, 10 cc of which are taken for the cytological examination and a portion of the cystic wall for the anatomo-pathological examination. We performed a cysto-jejunostomy about 30 cm from the TREITZ angle, Washing and drainage of the abdominal cavity.

The operative follow-up was simple with the return of bowel function on the 3rd postoperative day, normal feeding authorized on the 6th day and removal of the abdominal drain on the 8th day.

DISCUSSION

In case 1, the diagnosis was preoperative and the surgery was indicated because the case was symptomatic, while the case 2, the operative indication was posed by an ultrasound diagnosis of liver abscess and the diagnosis of the pseudo cyst of pancreas was per operative. The ultrasound did not specify the pancreatic origin of the cystic mass in case 2. CT scanning being more efficient would have helped the preoperative diagnosis [3]. In a developing country, people are not always able to pay the CT-scan.

Marsupilisation is the first surgical method of treatment of pancreatic pseudocysts introduced by Gussenbauer in 1882. Others technics occurred, such as large excision of the cyst, internal and external drainage operation. In 1927, Henle and Hahn reported a successful operation in which a loop of jejunum was joined to the pancreatic cyst. Jurasz in 1931, described the Cystogastrostomy through trans-gastric route. In 1946, Koning made use of the Roux-en-Y principle to treat the pancreatic pseudo cyst [6]. Nowadays, several authors report laparoscopic internal shunts. Cystogastrostomy performed by the natural transluminal orifice endoscopy surgery (NOTES) were also described [7].

Marsupialization is currently part of the history of management of pseudo cyst, the laparoscopic approach and the "NOTES" are demanding in terms of equipment and staff expertise. We performed an open internal cysto-digestive anastomosis (bypass), adapted to our technical facilities.

The rule indicating an intervention when the size of the pseudo cyst exceeds 6 cm in diameter beyond six weeks of evolution of acute pancreatitis [8] is no longer appropriate since spontaneous regressions of such pseudocysts remains possible in 50% of cases beyond this time limit [9]. There is an agreement that large, persistent and symptomatic cysts should be drained since they are usually associated with complications [10].

In case of random discovery of an asymptomatic pseudocyst, three evolutionary patterns are possible: either the pseudo-cyst remains but stays asymptomatic, or it disappears or becomes complicated. Only in

the latter case must we intervene. The minimally invasive techniques, endoscopic or interventional radiology, keep the same indications as surgery and are not recommended in case of asymptomatic pseudo-cyst [7].

Guilo *et al*. report the use of synthetic somatostatin analogues in 7 patients, at a dose of 300 µg / day for 2 weeks; it was partially effective in 4 patients and was totally effective in 3 patients [11]. Thus, Octreotide is recommended as adjuvant treatment especially during percutaneous drainage. We did not use synthetic analogues of somatostatin in our experiment as they were unavailable.

Another study showed the efficacy of total parenteral nutrition on size regression of uncomplicated pancreatic pseudocyst. This regression was effective only in 68% and was only total in 14% of cases [12]. Synthetic somatostatin analogues and parenteral nutrition can be used as adjuvant therapy and not as a therapeutic alternative alone [7].

Some authors propose simple monitoring, to observe the spontaneous regression of the pancreatic pseudocyst. It is an applicable method, if frequent clinical and radiological monitoring of patients is respected, to detect the occurrence of complications [8,13]. This attitude cannot be applied in poor backgrounds such as ours, where patients already struggle to afford the primary screening for diagnosis. Our case 2 did not undergo the CT-scan and the case1 was operated with a delay of more than one month, all due to lack of financial means. Walt et al. suggest, searching for non-regression factors such as: size, chronicity, multiplicity, calcifications, wall thickness, traumatic origin, absence of communication with the Wirsung canal, when randomly discovering a pancreatic pseudocyst [13].

The percutaneous puncture is a relatively efficient technique allowing the decompression of hyperalgic pancreatic pseudocyst presenting a rupture threat, and allowing to achieve a maturation of the wall in order to treat the pancreatic pseudocyst surgically in a second time. However, the recurrence rate is high and rises up to 50% in the short term. Thus, authors preferentially recommend the realization of an external drainage, or an internal, in case of failure [14].

The external drainage, which consists in leaving a drain of diameter> 8 mm in the cystic cavity, is carried out when the contents of the pseudo cyst are infected, or its walls too thin to support stitching, after achieving hemostasis through laparotomy of an intracystic haemorrhage or treatment of intraperitoneal rupture of a pseudocyst [7]. The rate of recurrence and mortality after external drainage varies from 5 to 36%; which is quite considerable. The risk of external pancreatic fistula after removal of the drain oscillates between 7 and 38%, persisting from several weeks to several months after removal of the drains. They are closed either spontaneously or with the help of somatostatin analogs or by surgical treatment [15]. With the risk of external drainage, we did not realize it. Because, firstly, the cyst wall was well developed and was favorable to the cysto-digestive anastomosis and secondly, there were no signs of infection.

Endoscopic drainage is nowadays possible, there are 3 types: trans-mural drainage, trans-papillary drainage, and echo-endoscopic drainage. Indications include: All symptomatic pseudo cyst; or asymptomatic pseudo cyst measuring more than 4 or 6 cm for some [16,17]. In literature, results of Trans mural drainage show an efficiency above 80%, with an average failure rate of 5% and a recurrence rate of 7-15%. The average morbidity rate is 15%, including in growing order of frequency: hemorrhage, perforation, and infection [16,18].

Ultrasound guided endoscopic drainage, when possible, allows for technical success in more than 94% of cases, with a complication rate of 0 to 16% [19]. The trans papillary drainage results show a disappearance of the cyst in 85% of the cases, with a recurrence in 10% of the cases, and 10% rate of morbidity, with mainly infectious complications and acute pancreatitis [20]. Our technical equipment does not allow us to perform endoscopic drainage.

The surgical procedures for management of pancreas pseudocysts are the internal cystogastric, cystoduodenal or cystojejunal shunts. Internal laparoscopic shunts are also mentionned in recent literature. The main contraindications to these techniques are: Intracystic hemorrhage and superinfection of the pancreatic pseudo cyst weakening its wall [7]. The main complications are: Postoperative hemorrhage, more frequent after a cystogastrostomy and which considerably increases the mortality rate; the occurrence of postoperative sepsis; the gastro-cutaneous fistula and the rupture of anastomosis, are rarer. There is little difference between mortality and morbidity rates for these techniques [21]. The different series concerning the internal shunts show that these techniques have the lowest mortality, morbidity and recurrence rates compared to other therapeutic methods. The mortality rate is about 5%, the morbidity does not exceed 15% and the recurrence rate is on average 10%. The mortality seems even lower (0% and 2%) in the most recent series [13]. We did not record complications in the immediate postoperative course in our 2 patients.

cystogastrostomy or trans gastric cystogastric bypass allows treatment of pancreatic cyst with 8% risk of secondary hemorrhage, 5% risk of infection and 10% risk of recurrence [22]. It is indicated when the pseudocyst bulges on the posterior side of the stomach. This bypass avoids dissecting too much inflammatory tissues; consisting of anterior gastrostomy and posterior gastrostomy centered on the cyst, after making sure that the pseudo cyst is adherent to the posterior wall of the stomach [7]. This technique is only suitable for cysts adhering to the stomach and has a higher risk of secondary hemorrhage than other internal bypass techniques.

Transduodenal cystoduodenostomy, on the other hand, is indicated in the cephalic pseudocysts that bulge in the duodenum and laminate it. The duodenal exposure involves a lowering of the right colic angle, a Kocher's maneuver, and disposing some compresses behind the pancreatic head to push back the duodenum which is open longitudinally over a few centimeters next to the pseudocyst. The Laterolateral cystoduodenostomy variant can only be performed if the cystoduodenal anastomosis can be achieved without tension, which is very rare [7]. This technique seems laborious and too risky, involves the risk of hurting the disc. We do not prefer it.

The cystojejunal bypass presents the advantage of adapting to all cystic localizations and in particular to the pseudocysts of the posterior cavity of the omentum that do not adhere to the posterior wall of the stomach and for cephalic pseudocysts without close contact with the duodenum. The anastomosis can be carried out on an "omega" loop or a "Y" loop of 60 cm long which makes it possible to reach the pseudo cyst without traction and to prevent backflow into the cyst [7]. This is the technique we prefer for its ease of execution and its adaptation to all localizations of the pancreatic cyst with results identical if not better than the other techniques. We performed the anastomosis on an "OMEGA" loop about 30 cm from the Treitz angle in both cases, even if in the first case the cyst was on the body of pancreas and in the second case on the Head. This type of anastomosis makes it possible to have less digestive stiches and therefore less risk of digestive fistula, but involves the risk of food back flowing into the cyst, hence the importance of parenteral nutrition for a few days.

Laparoscopic internal shunts Indications are the same as those for laparotomy techniques. Two interventions are mainly described in the literature: the Laparoscopic Cystogastric bypass with 3 variants (Trans Gastric, Endogastric and Retrogastric) and the Laparoscopic cystojejunal bypass [7]. These newer modalities of treatments, laparoscopic and endoscopic interventions, have an added advantage of lesser pain, shorter duration of hospital stay and recurrence [3]. We are not acquainted with the laparoscopic cysto-digestive bypass.

CONCLUSION

Cystojejunostomy is an efficient technique with low morbidity in the management of pseudocysts of the pancreas, well suited for developing countries. It is relatively easy to perform and has the advantage of adapting to all cystic locations. The laparoscopic cystojejunal shunt adds the indisputable advantages of laparoscopy over laparotomy. In Africa, the need for equipment and practice for the staff is essential to reconcile the advantages of technology and various approaches.

Conflict of Interest

Authors declare no conflict of interest.

Author's contribution

Setondji Gilles Roger ATTOLOU and Alexis MUPEPE KUMBA: Drafting the article, Substantial contribution to conception and design, acquisition of data. (Wrote the paper)

Wilfried Elohonnan GANDJI and Habib N'Domè NATTA N'TCHA: Revising it critically for important intellectual content and final approval of the version to be published.

Tiani Marie-Gaston AGBO: Acquisition of data and approval of the version to be published.

Delphin Kuassi MEHINTO: Final approval of the version to be published.

REFERENCES

1. Maringhini A, Uomo G, Patti R, Rabitti P, Termini A, Cavallera A, et al. Pseudocysts in acute nonalcoholic pancreatitis: incidence and natural history. Dig Dis Sci 1999; 44:1669-73.
2. Ameuraoui T, Alami B, Boubbou M, Maaroufi M, Kamaoui I, Tizniti S. Un faux kyste pancréatique mimant une tumeur kystique et doublement compliqué de compression digestive et d'hémorragie: la pancréatite aiguë, la saga continue. The Pan African Medical Journal 2014; 18:221. doi:10.11604/pamj.2014.18.221.4730.
3. Babu GR, Venkatesh S, Jain P, Ramakrishnan K. Clinical study and management of pseudocyst of pancreas. Int Surg J 2017; 4:1426-30.
4. Weckman L, Kylanpaa ML, Puolakkainen P, Halttunen J. Endoscopic treatment of pancreatic pseudocysts. Surg Endosc 2006; 20: 603-7.
5. Büchler MW, Friess H, Muller MW, Wheathler AM, Beger HG. Randomized trial of duodenum preserving pancreatic head resection versus pylorous-preserving Whipple in chronic pancreatitis. Am J Surg 1995; 169(1): 65-9.
6. Warren WD, Marsh WH, Sandusky WR. An Appraisal of Surgical Procedures for Pancreatic Pseudocyst. Annals of Surgery 1958;147(6):903-919.
7. Risse O, Arvieux C, Abba J, Létoublon C. Chirurgie des complications des pancréatites aiguës. EMC - Techniques chirurgicales - Appareil digestif 2012; 7(4):1-14 [Article 40-885].
8. Bradley EL, Clements JL Jr, Gonzalez AC. The natural history of pancreatic pseudocysts: a unified concept of management. Am J Surg 1979; 137(1):135-41.
9. Vitas GJ, Sarr MG. Selected management of pancreatic pseudocysts: operative versus expectant management. Surgery 1992; 111(2):123-30.
10. Saribeyoğlu K, Pekmezci S, Kol E, Kapan M, Taşçi H. Laparoscopic Cystogastrostomy for the Management of Pancreatic Pseudocysts. Turk J Med Sci 2008; 38 (4): 311-7.
11. Guilo L, Barbara L. Treatment of pancreatic pseudocysts with octreotide. Lancet 1991; 338(8766): 540-1.
12. Bernades P, Belghiti J, Athouel M, Mallardo N, Breil P, Fékété F. Histoire naturelle de la pancréatite chronique. Gastroenterol Clin Biol 1983; 7:8-13.
13. Walt AJ, Bouwman DL, Weaver DW, Sachs RJ. The impact of technology on the management of pancreatic pseudocyst. Arch Surg 1990; 125: 759-63.
14. Gerzof SG, Johnson WC, Robbins AH, Spechler SJ, Nabseth DC. Percutaneous drainage of infected pancreatic pseudocysts. Arch Surg 1984; 119(8): 888-93.
15. Aranha GV, Prinz RA, Freeark RJ, Kruss DM, Greenlee HB. Evaluation of therapeutic options for pancreatic pseudocysts. Arch Surg 1982; 117(5): 717-21.
16. Barthet M. Traitement endoscopique de la pancréatite chronique. Gastroenterol Clin Biol 2002; 26:B130-B9.
17. Barthet M, Bugallo M, Moreira LS, Bastid C, Sastre B, Sahel J. Traitement des pseudokystes de pancréatite aiguë : étude rétrospective de 45 patients. Gastroenterol Clin Biol 1992; 16:853-9.
18. Barthet M, Bugallo M, Moreira LS, Bastid C, Sastre B, Sahel J. Management of cysts and pseudocysts complicating chronic pancreatitis. A retrospective study of 143 cases. Gastroenterol Clin Biol 1993; 17:270-6.
19. Antillon MR, Shah RJ, Stiegmann G, Chen YK. Single-step EUS guided transmural drainage of simple and complicated pancreatic pseudocysts. Gastrointest Endosc 2006; 63:797-803.
20. Binmoellller KF, Seifert H, Walter A, Soehendra N. Transpapillary and transmural drainage of pancreatic pseudocysts. Gastrointest Endosc 1995; 42(3):219-24.
21. Adams DB, Anderson MC. Percutaneous catheter drainage compared with internal drainage in the management of pancreatic pseudocyst. Annals of Surgery 1992; 215(6):571-578.
22. Regimbeau JM, Dumont F, Yzet T, Chatelain D, Bartoli E, Brazier F et al. Prise en charge chirurgicale de la pancréatite chronique. Gastroenterol Clin Biol 2007; 31:672-85.