SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

General Surgery

Pancreatic Pseudocyst in A Child: About A Case, in the Hospital of the District of the Commune IV of Bamako

Dembélé S. B[1*], Dianessy Y[1], Samake M[1], Guiré A[1], Amaguiré Saye[2], Diarra S[2], Maïga I[3], Coulibaly O[4], Dembélé K.S[5], Konaté S[6], Diarra I[7], Mahamane Dicko[8], Diarra M[9]

[1]General Surgery Department of the CIV District Hospital in Bamako, Mali
[2]Gyneco-Obstetrics Department of the CIV Bamako District Hospital, Mali
[3]Image Service of the District Hospital of the Commune IV of Bamako, Mali
[4]Pediatric Surgery Department of CHU Gabriel TOURE, Bamako, Mali
[5]Reference Health Centre of Tominian, Segou, Mali
[6]Reference Health Centre of Kolondiéba, Sikasso, Mali
[7]Reference Health Center of Commune I of Bamako, Mali
[8]Anesthesia and Resuscitation Service at the District Hospital of the Commune IV of Bamako, Mali
[9]General Medicine Service at the District Hospital of Commune IV of Bamako, Mali

DOI: 10.36347/sasjs.2024.v10i06.004 | **Received:** 25.04.2024 | **Accepted:** 31.05.2024 | **Published:** 04.06.2024

***Corresponding author:** Dembélé, S. B
General Surgery Department of the CIV District Hospital in Bamako, Mali

Abstract **Case Report**

The pseudocyst of the pancreas is rarely diagnosed and treated in our hospital, we report this first case of a 10-year-old child with no particular medical-surgical history with a history of impact trauma from the handlebars of his bicycle during a walk in the village. A week later, progressive abdominal pain appeared associated with an increase in the volume of the abdomen. A month after the trauma the signs of gastric and biliary compression settled type of nausea, postprandial vomiting, weight loss, anorexia, jaundice. After clinical, biological and radiological examinations, we retained the diagnosis of a pseudo cyst of the symptomatic pancreas. The treatment consisted in making an internal surgical bypass Kystogastric. Cytobacteriological examination of the collection of the contents of the pancreatic cyst revealed a multiresistant gram-negative bacterium «Achromobacter dentrificans», antibiotic therapy adapted to the germs was administered. The surgical suites were simple.

Keywords: Pancreatic pseudocyst, abdominal scan, 6 weeks delay, internal surgical drainage.

INTRODUCTION

A pseudocyst of the pancreas is defined by a collection containing amylase-rich fluid developed at the expense of the pancreas, without its own wall, which is constituted by the neighborhood organs [1, 2]. In pediatrics, they are considered a rare entity and the vast majority occur following abdominal trauma whose most observed mechanism is the handlebar stroke [3]. In addition to the traumatic causes widely cited in children, one readily distinguishes pseudo cysts occurring during chronic pancreatitis (20 to 40% of cases) and those resulting from an acute pancreatitis outbreak (16 and 50% of cases) [1]. Diagnosis is currently easy thanks to advances in medical imaging including computed tomography which is the key examination in pancreatic pathology and cholangio-pancreatio-MRI [3, 4]. The only therapeutic possibility remained surgical for a long time but percutaneous treatments and then endoscopic treatments developed and are now a real alternative [5]. The prognosis of pseudocysts depends mainly on the underlying pancreatic pathology (i.e., pancreatic function) and complications related to the evolution of the pseudocyst [6]. The hospital of the district of the commune IV of Bamako is a general public hospital, given the rarity of this pathology, we considered necessary to present this first clinical case of false cyst of the pancreas in our structure in order to emphasize the clinic, the contribution of the abdominal scanner in the diagnosis, the patience of the delay of 6weeks and the internal surgical drainage in our context.

OBSERVATION

This is a 10-year-old male, residing in Sambaga, a village located about 105km from the city of Kayes. The region of Kayes itself is located 614 km from Bamako the capital of Mali. There was no particular medical-surgical history, however it was reported to us by the family that the child was the victim of an accident

by self-skidding of his bike on January 20, 2024, during a walk in the village. This accident caused a closed trauma of the abdomen by impact of the handlebars of his bicycle. A week later, pain of progressive epigastric localization appeared, of moderate intensity associated with a gradual increase in abdominal volume. Faced with this picture, the child's parents carried out several consultations in the health facilities of Kayes (Regional Hospital and private clinics) without success. 1 month 3 days later that is to say on 25/02/2024, we received the child in consultation in a table of intense abdominal pain of epigastric localization with subsequent irradiation, this pain was especially accentuated during the early post-prandial period. Abdominal pain was associated with nausea, early post-prandial vomiting, weight loss with an estimated weight loss of 7 kilograms in 1 month, conjunctival jaundice and conjunctival pallor. On physical examination, his weight was 19kg, the tiller at 1.20 meter with a body mass index (BMI) at 13.19kg/m^2, the temperature was 37.9^{0}Celsus, the pulse at 125pulsations per minute, its WHO performance index was rated at 3. The abdomen was distended with an epigastric arch (Figure 1). Biological, biochemical and radiological tests were requested. In biology and biochemistry, amylasemia and lipasemia were elevated to 255UI/l(N<90UI/l) and 275UI/l(N<38UI/l) respectively. At the blood count, there was anemia at 9.8g/dl with hyperleucocytosis at 13700/mm3 and CRP greater than 70mg/l, the child was in the AB rhesus positive group. Transaminases, procalcitonin, creatinine and full ionogram were normal. A computed tomography (CT) abdominopelvic performed allowed to objectify a pseudo pancreatic cyst of 179×112mm (coronal plane), repressing the digestive structures on both sides with a low abundance hemoperitoneum (Figure 2). Before the clinic and the additional examinations we retained the diagnosis of a pseudo cyst of the post traumatic symptomatic pancreas with signs of gastric and biliary compression at 5 weeks of the accident. For reasons of reaching a period of at least 6 completed weeks of causal trauma, and preoperative preparation (resuscitation, nutrition and transfusion), we operated on the child on 18/03/204 that is to say at 8 weeks 2days of abdominal trauma. The resalisse gesture was an internal surgical transgastric kysto-gastric bypass (Figure 4) with the evacuation of 2500ml of sero-hemo-purulent fluid (Figure 5). A trans-gastric puncture of the pancreatic cyst had previously been performed which brought back a yellow citrin cloudy liquid (Figure 3). This fluid from the fake pancreatic cyst was sent to the laboratory for cytobacteriological examination and antibiogram. This study revealed the presence of Gram-negative bacillus of the genus Achromobacter denitrifying (a multi-resistant bacterium), sensitive only to Imipeneme, Piperacillin, Ticarcillin and Chloramphenicole. Antibiotic therapy adapted to the germ was administered to the child. The subsequent operations were simple. At D1 post operation the child was allowed to take the liquid feed. At J5 postoperative the child was discharged from the hospital in a satisfactory condition. The total healing of the laparotomy suture was obtained at J15 postoperative outpatient (Figure 6).

A follow-up of control was realized at J45 postoperative: The child had a good general state with total disappearance of the painful symptomatology, gastric and biliary compression. Its WHO performance index was evaluated at 1, it had a gain of 6kg with a weight at 25 kg, a BMI =17.36 kg/m2 (a gain of 4.17kg/m2), the Pulse was at 66pulsations per minute, lipasemia =78UI/l, amylasemia=128UI/l, CRP =0,00mg/ml, blood count was normal with a hemoglobin level of 12.0g/dl, leukocytes were 9000/mm3. At the control pelvic abdomino CT there was a minimal residual effusion of the FKP estimated at 47×27mm (Figure 7).

Figure 1: Abdominal distension with epigastric arch

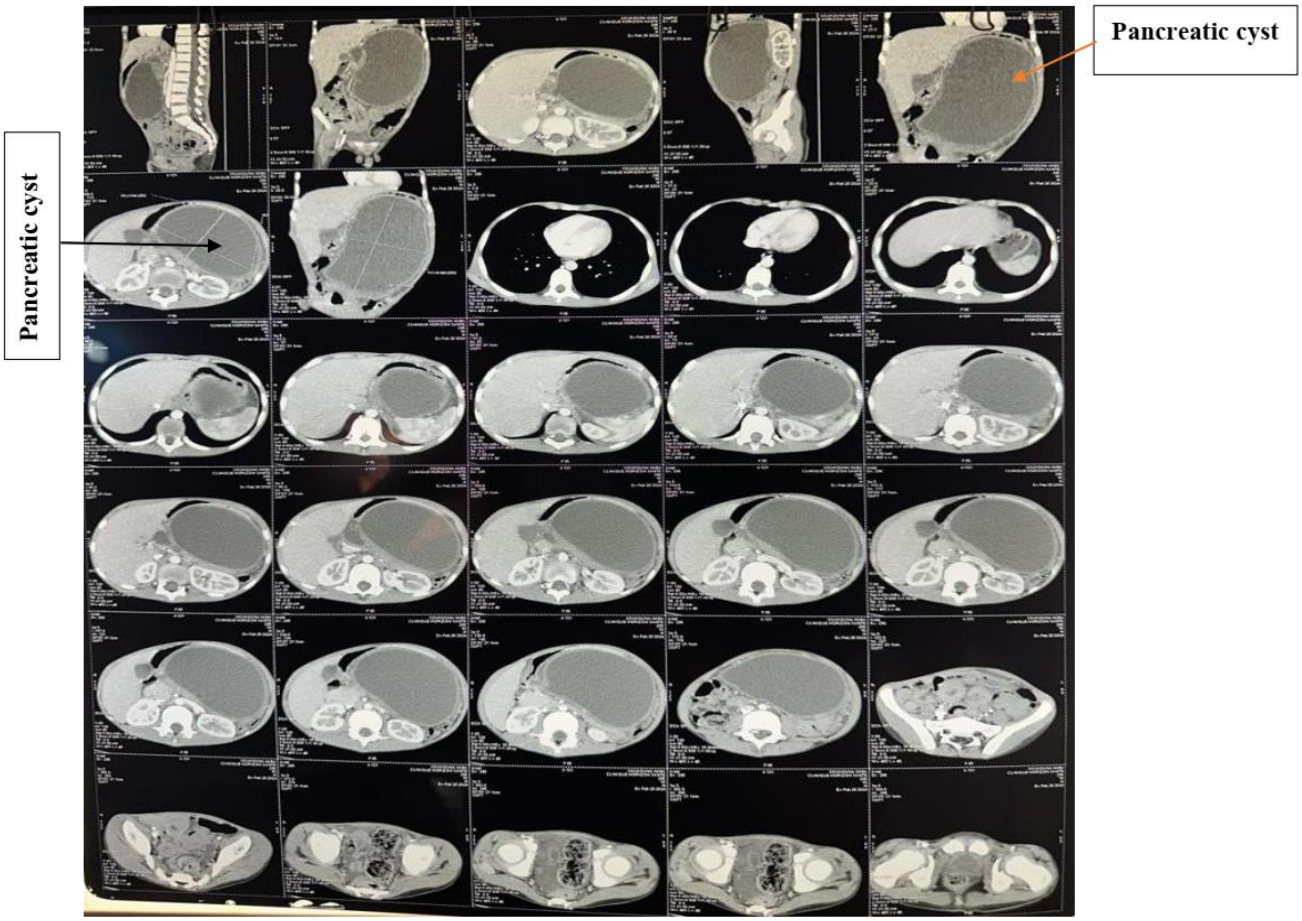

Figure 2: TDM abdomino-pelvienne objectivant un faux kyste du pancréas refoulant les structures digestives de part et d'autre

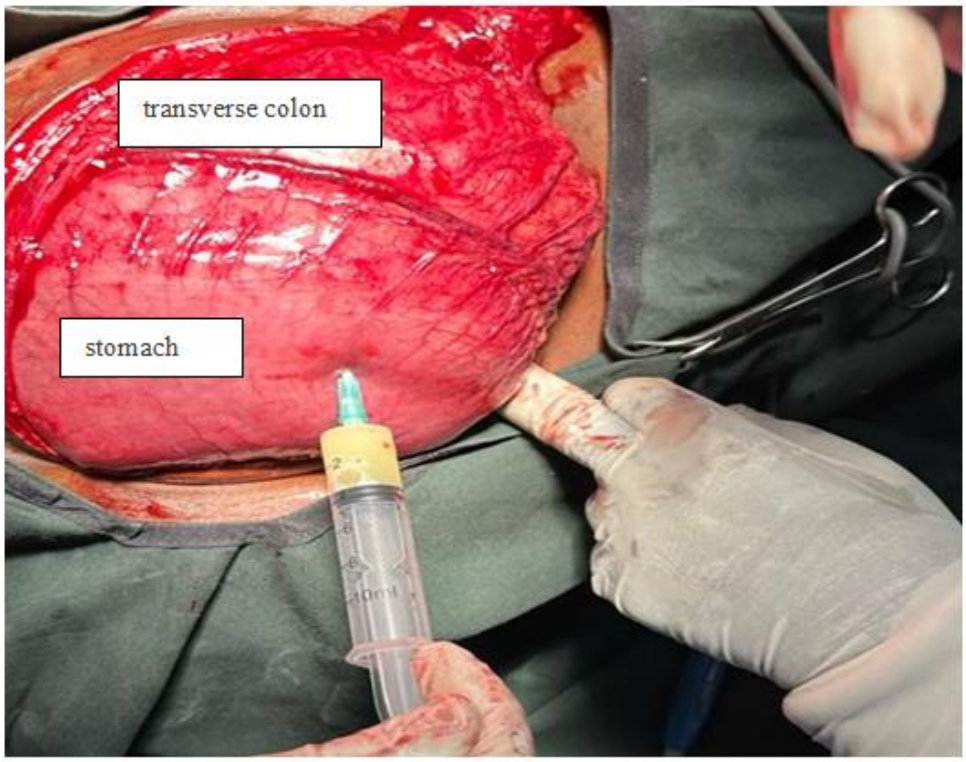

Figure 3: Puncture of the pseudocyst Trans-gastric, repressing the posterior face of the stomach

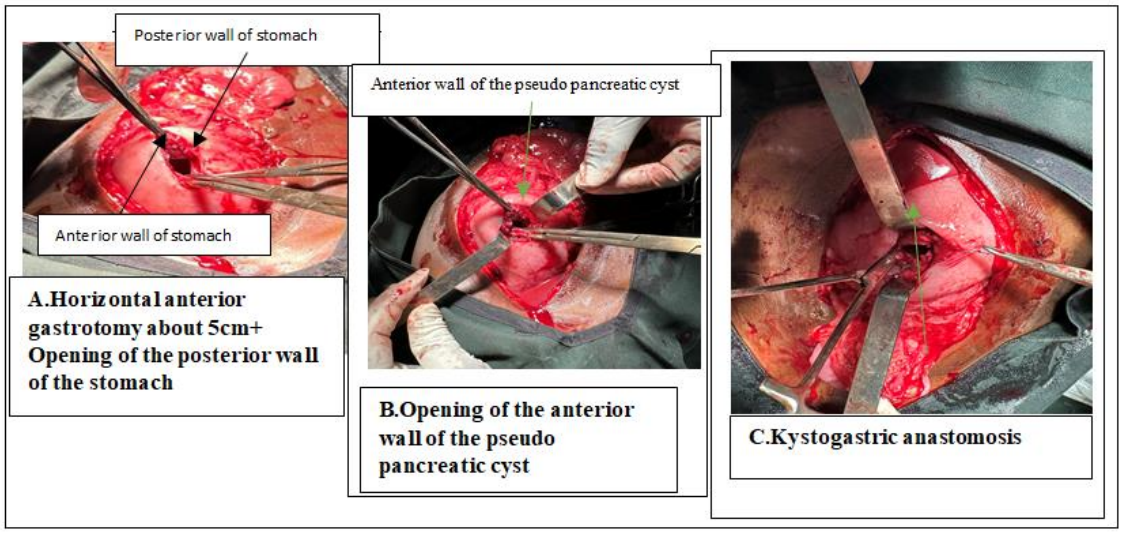

Figure 4: Intra-gastric transgastric cyst surgical bypass

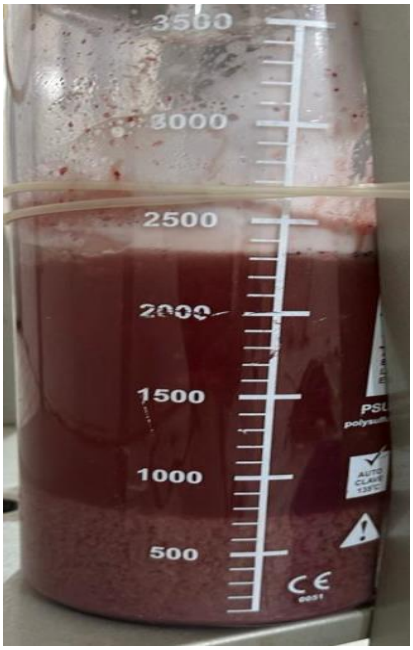

Figure 5: Fluid draining into the pancreatic pseudocyst

Figure 6: Healing of the surgical wound on post-operative day 13

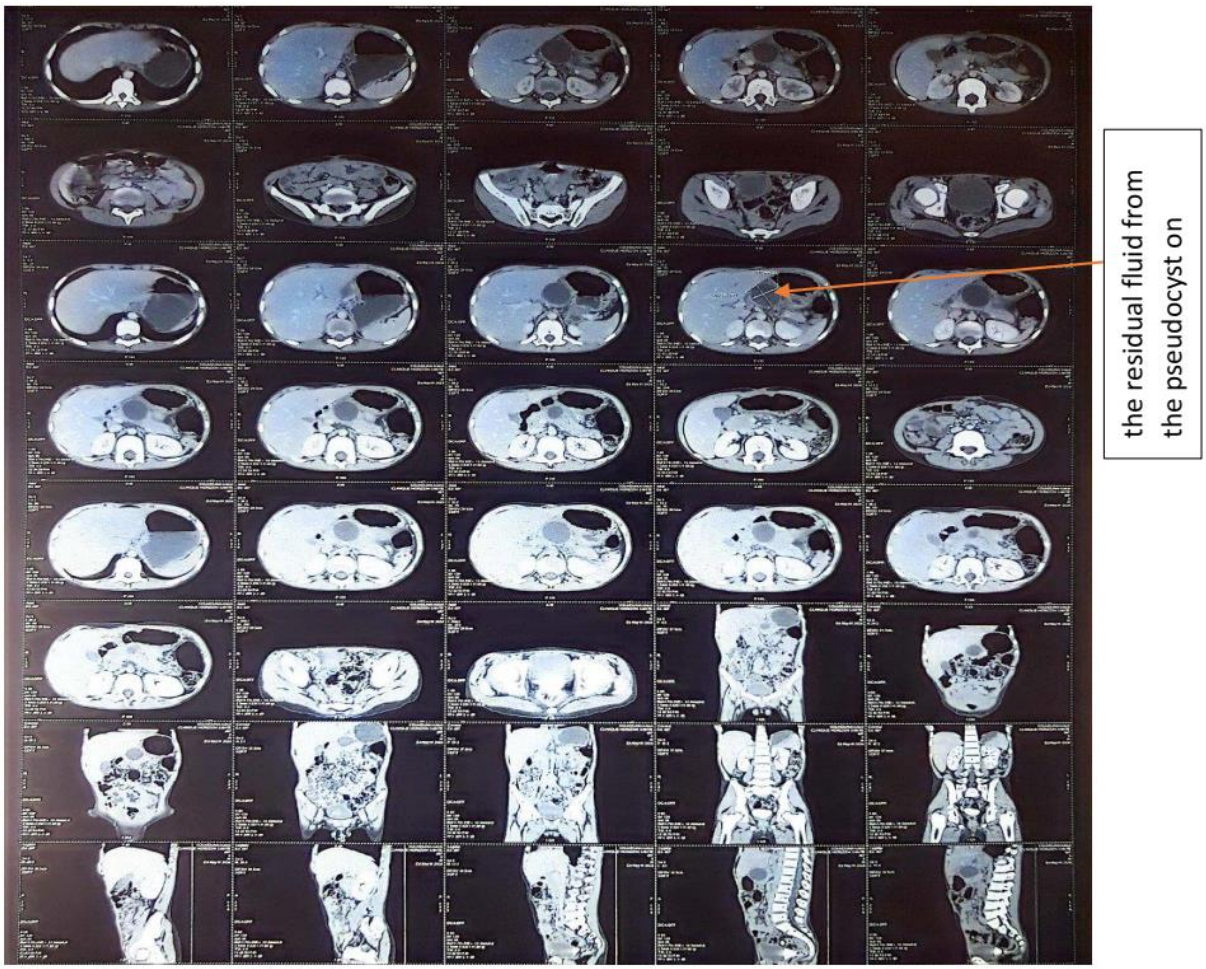

Figure 7: Control abdominopelvic CT scan on post-operative day 45 showing residual fluid from the 41x37mm pancreatic pseudocyst, without mass effect

DISCUSSION

Pseudocysts of the pancreas are considered a rare condition [7]. During 22 months of surgical activity, we identified 1cas. This prevalence is consistent with the study of ANNE M B in Senegal [8] which identified 1 case in 7 years, but is slightly lower than the study of Maïga in Mali [3] which found a hospital prevalence of 2cas per year in 5 years. This could be explained by the fact that, Maiga's study was conducted in a specialized department in pediatric surgery where the vast majority of surgical pathologies of the child are referred to this department. Most authors report a male predominance of 50-80% and describe a major frequency between 3 and 12 years [9-11]. Our patient was a 10-year-old male. One readily distinguishes the pseudo cysts of the pancreas occurring during chronic pancreatitis, from those resulting from a flare of acute pancreatitis. The third cause of pseudocysts is represented by injuries on healthy glands, especially in children [1]. Indeed, in children, abdominal trauma is responsible for 69% of pseudo cysts, and more precisely by impact of bicycle handlebars in half of the cases [12]. This abdominal trauma usually occurs in male children and this male predominance can be explained by the fact that boys are more exposed to trauma than girls [3]. The 5 weeks before the diagnosis of the pancreatic cyst, the child suffered a closed trauma of the abdomen by impact of the handlebars of his bicycle. The mechanism could then be explained by a root canal lesion causing or not acute pancreatitis [1].

The clinical picture was dominated by abdominal pain, signs of gastric and biliary compression type of anorexia of early postprandial vomiting, jaundice of significant weight loss and epigastric arch. A significant increase in amylasemia and lipasemia and a high CRP. This clinical and biological symptomatology associated with the context of abdominal trauma in children is found in several authors [3, 8, 13]. The abdominal scanner is the most efficient examination and is a key element in the diagnosis, it gives much more accurate images on the size, the seat, the involvement or not of the Wirsung canal… [4,9]. Performed in our patient, it was essential and allowed us to retain the diagnosis of a pseudo cyst of the posttraumatic pancreas with a hemoperitoneum of low abundance.

On the therapeutic level, endoscopy drainage has become the reference technique for the management of complicated pancreatic collections, but this technique requires expertise and a complete technical platform and

also a waiting time of 6 weeks. This deadline is necessary, because during this period, the pseudo-cyst collects, constitutes a clean wall, which allows quality drainage [4, 5]. After 8 weeks of evolution, in the absence of endoscopy in our structure, with the persistence of painful symptomatology and gastric and biliary compression we performed an internal cyst-gastric surgical bypass. Cytobacteriological examination of the pseudocyst fluid allowed us to highlight «a Gram-negative bacillus of the genus Achromobacter denitrifying». This germ usually inhabits aquatic sources and the human intestine. Its role in hospital-acquired infections has been mentioned and it has been recognized as a rare cause of a pseudo-pancreatic cyst in the Khan M study [14]. An adapted antibiotic therapy was introduced, the following operations were simple. At 1 month 15 days, there was no pain, the patient had a good general condition with a performance index WHO evaluate at 1, a weight gain of 6kilograms, a tendency to normalize biological data, a residual fluid of the pseudo pancreatic cyst of 47*27mm at the control CT.

CONCLUSION

Pseudocyst of the pancreas in children is rare in our daily practice. Traumatic etiology is very common in children. Abdominal computed tomography (CT) is the key diagnostic examination. Due to insufficient technical plateau in our structure, the internal drainage surgically of the pancreatic pseudocyst remains currently the reference technique for the management of voluminous and symptomatic pseudocysts of the pancreas, because it is a well codified and validated method, exposing to few recurrences. At the same time, the isolation of an uncommon but important germ must alert doctors to administer appropriate antibiotic therapy in order to prevent complications but also to participate in the strict control of infections.

The operative suites were simple and very satisfied in our child.

REFERENCE

1. Boudet, M. J., Bataille, N., & Fagniez, P. L. (1995). Traitement chirurgical des faux kystes du pancréas en dehors des exérèses dans EMC-Techniques chirurgicales appareil digestif. Créteil-France: Edition Tsunami (Exclusivité 2009), p. 1913-94. [40-886].
2. Frey, C. F., Bradley, E. L., & Beger, H. G. (1988). Progress in acute pancreatitis. *Surg Gynecol Obstet*, 167, 282-286.
3. Maïga, A. S. (2019). Pseudo-kyste du pancréas post traumatique en chirurgie pédiatrique du CHU Gabriel TOURE [thèse de médecine]. Bamako: FMOS; 140.
4. Jacques, J., & Laugier, R. (**2017**). Prise en charge des pseudokystes du pancréas. POST'**U.** Association FMC-HGE. [mise à jour le 31/05/2022]; p: 311-316. Disponible sur https://www.fmcgastro.org/wp-content/uploads/file/pdf 2017/311_316_Jacques.pdf.
5. Barthet, M. Pseudo-kystes pancréatiques : qui et comment traiter? Tirés à part: Marc BARTHET - Service de Gastroentérologie, Hôpital Nord, Chemin des Bourrely, 13915 Marseille cedex 20. Disponible sur https://www.fmcgastro.org/wp-content/uploads/file/pdf/178.pdf
6. Saidi, M. (2018). Le faux kyste du pancréas: aspects clinique et thérapeutique au CHU IBN SINA (à propos de 16 cas). Thèse méd Maroc; n° 328, 173 p.
7. Nguema-Mve, R., & Breton, C. (1997). Lettre à l'éditeur: À propos d'un faux kyste traumatique Du pancréas. *Médecine d'Afrique Noire*, *44*(1), 55-57.
8. Anne, M. B. (2022). Prise en charge des contusions abdominales chez l'enfant à propos de 48 cas au centre hospitalier régional de ziguinchor/ Sénégal [Thèse de médecine]. Ziguinchor: Université Assane Seck de Ziguinchor (UASZ), P133.
9. Faik, M., Halhal, A., Oudanan, E. M., Housni, K., Elbaroudi, S., & Tounsi, A. **(**2000**).** Les faux kystes du pancréas à propos de 13 cas. Médecine du Maghreb 2000 n°79. Disponible sur « Médecine du Maghreb » sur Internet WWW.santetropicale.com
10. Belghiti, J. (1990). Indications chirurgicales dans les pseudo-kystes du pancréas. *Ann Chir*, 1, 58-59.
11. Omalley, V. P., Cannon, J. P., & Postier, R. G. (1985). Pancreatic pseudo cysts: Cause, therapy and results. *Am J Surg*, *150*(6), 680-682.
12. Ford, E. G., Hardin, W. D., Mahour, G. H., & Woolley, M. M. (1990). Pseudocysts of the pancreas in children. *Am Surg*, 56, 384-387.
13. Fadil. Les faux kystes du pancréas (à propos de 34 cas). Maroc Médical.2001; tome 23(4), 272-277.
14. Khan, M., Lalani, K. F., Ikram, A., & Zaman, G. (2017). Achromobacter Denitrificans: A Rare Cause of Pancreatic Pseudocyst No-Touch Total Mesopancreas Excision for Pancreatic Head Cancer. *JOP J Pancreas (Online)*, *18*(4), 345-347.