PANCREATIC PSEUDOCYSTS LOCATED IN THE LIVER: A SYSTEMATIC REVIEW OF LITERATURE.

Fethi.Guesmi*, Ayoub.Zoghlami*, Yosri.Saidi***, Nabil.Najeh**, Chedli.Dziri**

** Service de Chirurgie Générale - Centre de Traumatologie et des Grands Brûlés - Ben Arous.*
*** Service de Chirurgie B - Hôpital Charles Nicolle - Tunis.*
****Service d'Anesthésie Réanimation- Hôpital Charles Nicolle- Tunis*

F.Guesmi, A.Zoghlami, Y.Saidi, N.Najeh, C.Dziri

LES PSEUDOKYSTES PANCRÉATIQUES INTRAHÉPATIQUES: UNE REVUE SYSTÉMATIQUE DE LA LITTÉRATURE.

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RÉSUMÉ

Pré-requis : Les pseudokystes pancréatiques constituent une complication rare des pancréatites aiguës, dont le diagnostic est rendu plus aisé grâce à la performance des méthodes d'imagerie médicale moderne. Le développement de la tomodensitométrie a en effet permis de mettre en évidence des localisations extra-pancréatiques et inhabituelles de ces pseudo-kystes, dont la localisation intrahépatique.

Le but : a été de rapporter une nouvelle observation illustrant une localisation intra hépatique de pseudokyste pancréatique et de réaliser une revue systématique des observations de la littérature.

Méthodes : Outre notre cas rapporté, une recherche bibliographique électronique a été réalisée. Tous les travaux publiés à propos du sujet depuis 1990 ont été colligés, en utilisant la base de données Medline. Les mots clés utilisés sont « pseudokyste pancréatique » et « foie ». Ont été inclus dans cette étude tous les articles rapportant un ou plusieurs cas. Quand l'article est indisponible, son abstract, s'il était complet, a été retenu. Ont été exclus de l'étude, les revues de la littérature, les lettres à la rédaction et les abstracts incomplets. Une analyse descriptive de tous les paramètres démographiques, cliniques, morphologiques et thérapeutiques a été réalisée.

Résultats : L'analyse des faits cliniques retenus de la littérature associés à notre observation soient 23 faits cliniques nous a permis de dégager les résultats suivants : il s'agit de 17 hommes et 6 femmes d'âge moyen 51±3,2 ans. Dix sept patients présentaient une pancréatite aigüe, compliquant une pancréatite chronique dans sept cas, alcoolique dans six cas, biliaire dans trois cas et post traumatique dans un cas. Les six patients restant présentaient une pancréatite chronique. Le pseudokyste était multiple dans 15 cas et unique dans 8 cas. Le siège de prédilection était le lobe gauche du foie (12 cas) alors qu'il n'y avait que 6 cas dans le lobe droit. Les deux lobes ont été intéressés dans 5 cas. Quinze malades ont été traités par un drainage percutané écho ou scanno guidé. Quatre malades ont été traités chirurgicalement. Trois patients n'ont eu aucun traitement et ont évolué favorablement, un malade a eu un drainage endoscopique transpapillaire. Sur les 23 patients trois décès ont été rapportés.

Conclusion : La localisation intrahépatique de pseudokystes pancréatiques est un évènement exceptionnel, survenant le plus souvent au cours d'une pancréatite aigue. Elle intéresse volontiers l'homme de la cinquantaine et prédominant au lobe gauche du foie. Le drainage percutané représente l'option thérapeutique de choix.

MOTS-CLÉS

Pseudokyste pancréatique, foie.

SUMMARY

Background: Pancreatic pseudocysts (PC) are a common complication of both acute and chronic pancreatitis. Most pancreatic pseudocysts are located within the head and the body of the pancreas, but 20% of them are extrapancreatic (pleura, mediastinum, pelvis and spleen). The location of a pseudocyst in the liver is an exceptional event, only thirty three cases are reported in the literature.

Aim: This article aimed to report a new case of PC located in the liver combined with a systematic review of reported cases published in peer-reviewed journals.

Methods: A new case of PC located in the liver was reported. An extensive electronic search of the relevant literature since 1990 was carried out using Medline. We retained only the articles reporting one or several cases. When the article was unavailable, we considered the relevant abstracts which should report clinical patterns and therapeutic modalities. Reviews of the literature, systematic reviews, letters to editors and incomplete abstracts were excluded. A descriptive analysis of the collected sample including our case was performed. Morphological, therapeutic and outcome variables were reported.

Results: The analysis of 22 cases reported in the literature and our observation provided the following data: 17 men and 6 women with a mean age of 51±3,2 years. Seventeen patients presented an acute pancreatitis, complicating a chronic pancreatitis in seven cases, alcoholic in six cases, biliary in three cases and traumatic in one case. Six patients presented a chronic pancreatitis. The PC was located in the left lobe of the liver in 12 cases, in the right lobe in 6 cases and interested the two lobes in 5 cases. The lesion was unique in 8 patients and multiple in 15 patients. Fifteen patients were treated by Ultrasound or CT guided percutaneous drainage. Four patients were managed surgically. Three patients had no specific treatment. One patient was successfully treated by endoscopic transpapillary drainage. The evolution was favourable for all patients except in three patients who died.

Conclusions: Pancreatic pseudocyst located in the liver is an exceptional event, commonly following acute pancreatitis, rising in older male, involving the left lobe of the liver and treated by percutaneous drainage.

KEY-WORDS

Pancreatic pseudocyst, liver.

الكيسة الكاذبة في المعثكلة داخل الكبد.

الباحثون : ف.قاسمي - أ.زغلامي - ي.سعيدي - ن.نجاح - س.دزيري.

الكلمات الأساسية : الكيسية الكاذبة في المعثكلة، الكبد.

Pancreatic pseudocysts (PC) are a common complication of both acute and chronic pancreatitis [1,2]. Eighty per cent of pancreatic pseudocysts are located within the head and the body of the pancreas, but 20% are extrapancreatic (pleura, mediastinum, pelvis and spleen). The location of a pseudocyst in the liver is an exceptional event [1,2].
The aim of this study was to report a new case of PC located in the liver combined with a systematic review of reported cases published in peer-reviewed journals.

MATERIEL AND METHODS

A new case of PC located in the liver was reported. An extensive electronic search of the relevant literature from January first, 1990 to June 31st, 2009 was carried out using Medline. Key words used were "pancreatic pseudocyst" and "liver" .We retained only the articles reporting one or several cases. When the article was unavailable, we considered the relevant abstracts which should report clinical patterns and therapeutic modalities. Reviews of the literature, systematic reviews, letters to editors and incomplete abstracts were excluded. A descriptive analysis of the collected sample including our case was performed. Morphological, therapeutic and outcome variables were reported.

RESULTS

Our case

A 54- year-old smoker and chronic alcoholic male, without past history of hepato-biliary or pancreatic disease was admitted to our hospital. He complained an abdominal pain, vomiting, and had 10 kg weight loss during two months. Physical exam found mild abdominal distension with generalized tenderness without signs of peritonitis, as well as a slight conjunctival jaundice. Laboratory parameters showed 1164 IU/L serum amylase (normal value < 62 IU/L), 46600 white blood cells/mm3, 218 mg/l C Reactive protein and 34 IU/L total biluribin. The patient's kidney tests, lipid and calcium plasmatic levels were within normal limits. An abdominal ultrasound revealed an eight cm cystic lesion in segment VI of the liver according to Couinaud's classification and a moderate ascites [3]. There was no biliary tract dilatation and no evidence of gallbladder lithiasis. The pancreas was not explored because of intestinal distention. Computed tomography (CT) scan of the abdomen showed a chronic calcified pancreatitis with a cystic collection of 16cm diameter near the tail of pancreas compressing the stomach and multiple cystic collections involving the two lobes of the liver and the caudate lobe. The largest one is located in segment VI and VII and had eight cm in diameter (fig nº1, 2). We decided to perform a CT guided percutaneous drainage of the lesion near the tail of pancreas, despite the lack of a definitive diagnosis based on the liver lesions.
Percutaneous drainage aspirated approximately one liter of black fluid and clots with high amylase activity (55000 IU/L). Bacteriologic cultures of fluid samples were negative. The diagnosis of pancreatic pseudocyst was retained. The abdominal CT scan repeated 10 days after drainage, showed a subtotal resolution of the pseudocyst located in the tail of the pancreas. However, the intrahepatic pseudocysts did not disappear. The patient reported continuous abdominal pain and nausea. Physical examination revealed an increase of the volume of the abdomen related to abundance of ascites, a polypnea, a tachycardia and edema of the lower limbs. Chest X-ray studies showed bilateral pleural effusion. Biochemical tests showed no changes. A percutaneous drainage was performed for the largest intrahepatic pseudocyst yielding 500 ml similar fluid yielded by the first drainage, with negative bacteriologic cultures. Under conservative and antibiotic therapy, the patient had a well recovery. The abdominal CT scan, repeated five days after drainage, showed a regression of pseudocysts located in the liver (fig nº3). However, the patient developed suddenly a cardiac failure with hemodynamic disorder and died eight days after the second drainage.

Figure 1 : Computed tomography scan showing cystic lesions located in the right hepatic lobe and in the pancreatic tail.

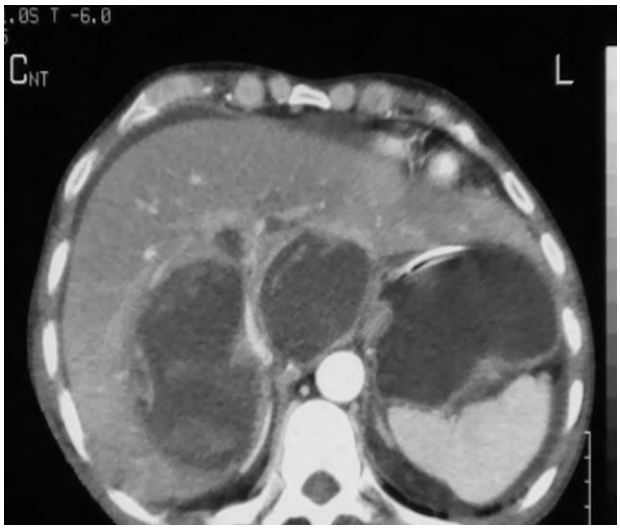


Figure 2 : Computed tomography scan showing cystic lesions located in the left hepatic lobe and in the caudate lobe.

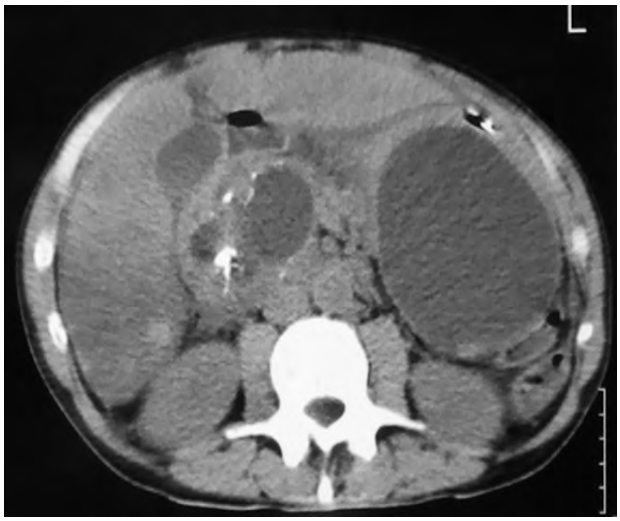
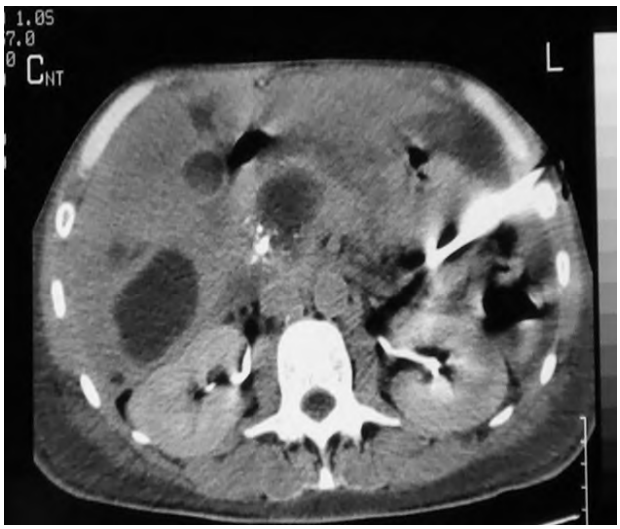


Figure 3 : Computed tomography scan showing regression of cystic lesions after percutaneous drainage.



Descriptive analysis of the twenty two cases reported with our case

We collected 22 cases in peer-reviewed journals in which the diagnosis of pancreatic pseudocyst located in the liver was established on several arguments: clinical, biochemical and imaging. There were seventeen men and six women aged between 34 and 76 years with a mean value of 51±3,2. Seventeen patients presented an acute pancreatitis on admission and the remnant had a chronic pancreatitis. The etiologies of pancreatitis were chronic pancreatitis in seven cases, alcoholic in six cases, biliary in three cases and post injury in one case. On the whole, chronic pancreatitis was present in twelve patients out of 23. The symptoms were similar to those of acute or chronic pancreatitis. Abdominal pain was usually reported, weight loss and diarrhea were present in only four cases. A palpable upper abdominal mass has been reported in one patient. Hepatomegaly was noted in only three patients. Jaundice was found in one patient. Laboratory tests demonstrated a high level of serum amylase and serum lipase in 17 patients with acute pancreatitis. Results of liver function tests were usually within the normal values. Ultrasound and computed tomography scan performed in all patients, revealed each time one or more intra hepatic cystic lesion. Moreover, this morphological assessment helped to establish the etiologic diagnosis of pancreatitis and to demonstrate other cystic localisations. The abdominal MRI was performed in only two patients, confirmed the diagnosis. Endoscopic retrograde cholangio-pancreatography (ERCP) was performed in two cases, revealed a pancreatic duct disruption communicating with intra-hepatic and intra-abdominal pseudocysts. The PC was located in the left lobe of the liver in 12 cases, in the right lobe in six cases and interested the two lobes in five cases. The lesion was unique in eight patients and multiple in 15 patients. The intra-hepatic localisation of PC was associated with other cystic localisations (intra-pancreatic, intra-peritoneal, spleen) in 14 patients, but it was unique in nine patients. The intra-hepatic collection was punctured in 15 cases, showed a high level of amylase in 12 cases. Fifteen patients were treated by Ultrasound or CT guided percutaneous drainage. Four patients were managed surgically. Three patients had no specific treatment. One patient was successfully treated by endoscopic transpapillary drainage. The evolution was favourable for 20 patients, three patients died.

DISCUSSION

In this systematic review, pancreatic pseudocyst located in the liver was reported in older male patients with a mean age (+/- DS) of 51.4 (± 3.27) years. This complication was more frequent in men than women with a sex ratio at 3. Almost three quarters of patients (17 cases) had acute pancreatitis on admission, complicating alcoholic chronic pancreatitis in 13 cases. This high frequency of alcoholic chronic pancreatitis is explained by the frequency of this disease in occidental people. Diagnosis of complicated chronic pancreatitis by acute pancreatitis and hepatic pancreatic pseudocyst was based on clinical, biochemical and imaging features [1,4]. Pancreatic pseudocyst symptoms are similar to those of acute or chronic pancreatitis. No clinical specific symptoms were identified [1]. In the presence of signs of acute pancreatitis, the diagnosis of hepatic pseudocyst is easy by imaging. In fact, the abdominal computed tomography, usually demonstrated intrahepatic cystic lesions with low density, and show pancreatic abnormalities[4,5,6]. Commonly, intrahepatic pseudocysts involve the left hepatic lobe. This phenomenon is explained by diffusion of the pancreatic juice along the lesser omentum or gastro hepatic ligament toward the liver[7,8,9]. Rarely, as in our case report, intrahepatic pseudocysts can involve the right lobe and this location can be explained by the spread of pancreatic fluid from the head of the gland into hepatoduodenal ligament[10,11,12]. Intrahepatic pancreatic pseudocysts are usually multiple as reported in our case [13,14,15]. Intrahepatic pancreatic pseudocysts can be single, without other pseudocyst location, in 40%[2,16].

Amylase level in the fluid obtained by puncture is elevated and is the most useful tool for the diagnosis of pancreatic origin[1,11]. Aspiration, using ultrasonography or computed tomography guidance, plays a major role to confirm diagnosis since the pancreas may be normal in appearance at CT scan[1,11].

The pancreatic pseudocyt disappears spontaneously in 50% and needs no specific treatment[17]. Percutaneous, endoscopic or surgical drainage indicated only when complications arise[17]. There are no definitive guidelines on the management of intra hepatic pseudocysts. However, the majority of published pancreatic pseudocysts located in the liver were treated by percutaneous or surgical drainage[1,2,13,18]. Only in three within the twenty three described treatments the pseudocyst resolved spontaneously with no need for drainage or surgery[6,9,19]. In one case, pseudocyst was treated endoscopically [20]. Criteria to drain have not been established clearly. Percutaneous drainage remains the very used method,

because it allows diagnosis confirmation and treatment at the same time[1].

CONCLUSION

Pancreatic pseudocyst located in the liver is an exceptional event, commonly following acute pancreatitis developed in older male, involving the left lobe of the liver and treated by percutaneous drainage

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