IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Intrahepatic Pseudocysts, Rare Complication Of Acute Pancreatitis: A Case Report And Literature Review

A.NEJMEDDINE, O. SOUSSI, H. TABAKH, N. TOUIL, N. CHIKHAOUI

Emergency Radiology Department of University Hospital Ibn Rochd, Casablanca

ABSTRACT

PURPOSE: This case report aims to discuss the rare occurrence of pancreatic pseudocysts in the liver as a rare complication of an acute pancreatitis and the utility of imaging in its diagnosis and management.

PRESENTATION OF CASE: A 59-year-old male patient presented to the emergency department with abdominal pain one month after being hospitalized for an acute pancreatitis. He was diagnosed with an intrahepatic pseudocyst of pancreatic origin based on history and imaging findings. The patient underwent surgery, with histological examination confirming the diagnosis.

DISCUSSION: CT scan is a commonly used imaging technique in the diagnosis of hepatic masses, providing a high resolution, cross-sectional view of the liver and surrounding structures. The use of contrast agents enhances the differentiation between vascular and non-vascular lesions and improves the accuracy of diagnosis. Other imaging techniques such as ultrasound, MRI, and PET-CT may also be used.
The treatment of intrahepatic pseudocysts depends on multiple factors, including the localization, size, surrounding organs, …

CONCLUSION: The CT scan findings in this case suggest a liver pseudocyst, which was confirmed to be of pancreatic origin on histological examination after surgery. The use of imaging techniques such as CT scan is important in the diagnosis and management of this type of complications, aiding in treatment planning and postoperative monitoring.

This case report discusses a rare case of an intrahepatic pseudocyst and highlights the diagnostic and management utility of CT scans. The patient, a 58-year-old male with a history of acute pancreatitis.

Keywords : intrahepatic pseudocyst, pancreatitis, CT scan, ultrasound, percutaneous drainage.

Introduction :

- Pancreatic pseudocysts are fluid formations that result from the diffusion of proteolytic pancreatic enzymes after acute or chronic pancreatitis. These pseudocysts can develop in the pancreas, in the peripancreatic area or spread to the peritoneal or pleural cavity, the spleen, the mediastinum, etc. [1, 2]. Intrahepatic localization is rare.
- In this paper, we report a case of pancreatic pseudocyst with intrahepatic development documented in our hospital, with a literature review.

Case Report :

- 59-year-old male patient with a history of chronic alcoholism, hospitalized for acute pancreatitis (grade C of Balthazar), who consulted a month later for epigastric pain evolving for a period of 10 days.
- The clinical examination revealed a patient in good general condition, with epigastric sensitivity and perception of an epigastric mass on palpation. The biological workup found a slight elevation of GGT without hepatic cytolysis. Lipasemia levels were normal.
- The patient underwent an abdominal CT scan before and after contrast medium injection, which showed the presence of an oval fluid-dense subcapsular formation straddling hepatic segments II and III, well bounded by a thin wall, measuring 13 x 7.5 cm (Fig.1 & 2). There was discrete infiltration of the peripancreatic fat and thickening of the right anterior pararenal fascia.

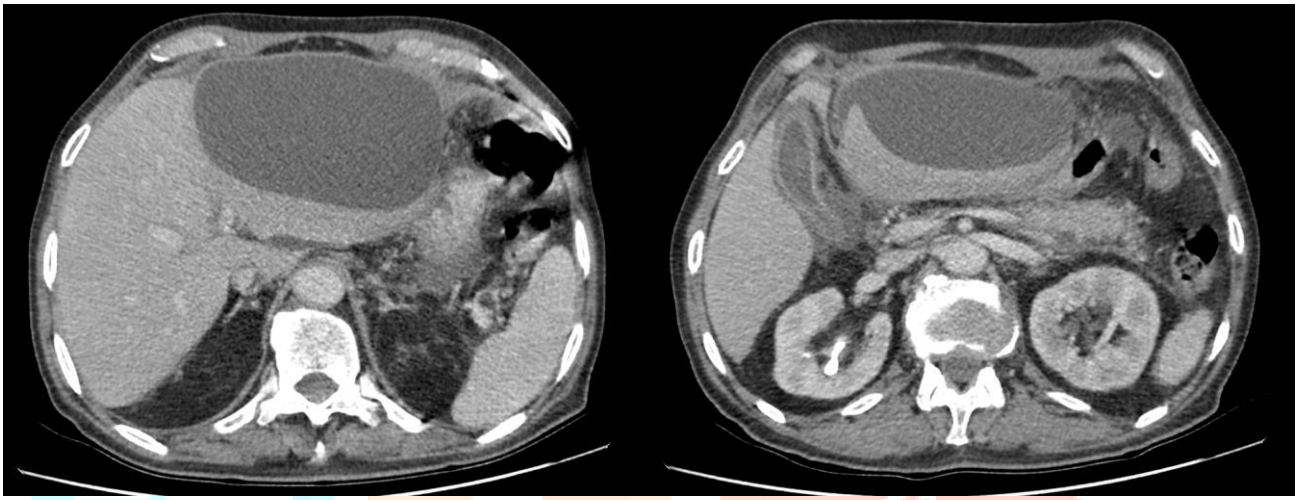

Figure 1 : abdominal CT scan (axial section): large subcapsular collection of the left liver, with liquid density, causing a scalloping on the hepatic parenchyma

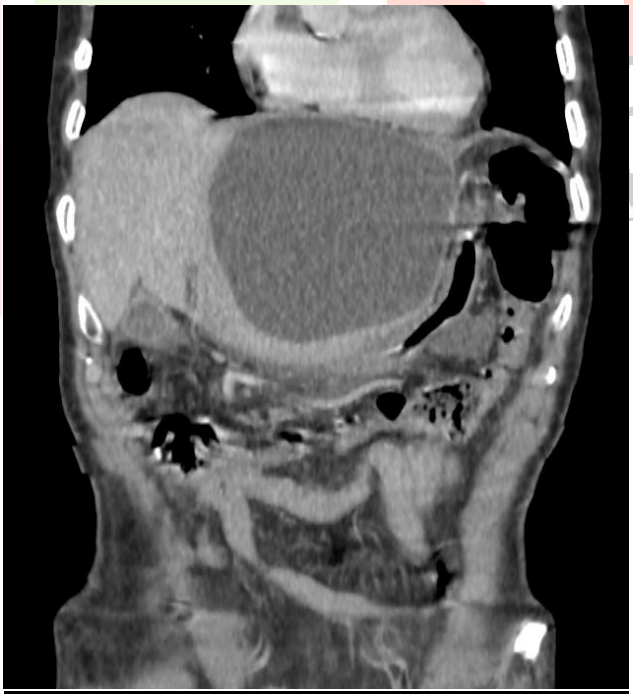

Figure 2 : abdominal CT scan coronal reconstruction of the subcapsular collection of the left liver

Discussion :

- Extra-pancreatic pseudocyst can be a complication of acute or chronic pancreatitis in 22% of cases, most often of alcoholic origin [1, 4]. It is defined as a collection without an epithelial wall, surrounded by fibrous tissue and with amylase-rich contents. Intrahepatic localization of pancreatic pseudocysts is rare and constitutes 20% of extrapancreatic localizations [2]. It occurs most often in middle-aged men with an onset time of one week to 2 months after pancreatitis [1, 4].
- The physiopathology is poorly understood; hypotheses suggest a migration of pancreatic fluid to the lesser sac and then through the triangular ligament or the hepatoduodenal ligament to the liver. Thanks to their proteolytic action, the pancreatic enzymes will diffuse towards the hepatic parenchyma, preferentially in the left liver and form the pseudocyst [1, 3]. Another hypothesis suggests a diffusion of pancreatic enzymes through the portal spaces in the hepatic hilum [3]. A fistulous pathway between the pancreas and the pseudocyst may persist or be absent at the time of diagnosis [4].
- Clinical symptoms are not specific and include epigastric pain with a feeling of tightness. A palpable mass, hepatomegaly, or compression of nearby organs may be revealing.
- Imaging contributes to the diagnosis of pancreatic pseudocysts. On ultrasound, it appears as a rounded or oval, well-limited formation with anechoic or hypoechoic content.
- CT scan is the modality of choice to search for local complications of pancreatitis, to differentiate pseudocysts from other peripancreatic collections and to guide punctures and drainages [9]. The pseudocyst appears as a well-limited, hypodense, thin- or thick-walled collection enhanced after injection of contrast medium [10, 12]. The CT scan can also be used to detect complications: intracystic hemorrhage that is characterized by a spontaneously hyperdense content. In case of secondary infection, the CT presentation is that of an abscess with possible presence of gas bubbles [12].
- MRI, if performed, shows a T1 hypointense collection (T1 hypersignal if intracystic hemorrhage), T2 hypersignal, with a discretely enhanced wall in the early phase and progressively increasing in the late phases testifying to the fibrous nature [9]. Cholangio-MRI is used to ensure the integrity of the bile and pancreatic ducts [11].
- Intrahepatic pseudocysts can present a diagnostic challenge on imaging in the absence of anamnestic and clinical elements in favor (history of pancreatitis or progressive pancreatitis). In fact, there are many diagnoses to consider when faced with a cystic image of the liver, including biliary cysts, hydatid cysts, bilomas, mucinous tumors, etc. The diagnosis of certainty in this case will be made when we find elevated amylase levels in the cyst [3, 4].
- The treatment depends on the location, size, connection with surrounding organs and whether there is a communication with the pancreas or not [4]. Fine-needle aspiration or ultrasound or CT guided drainage are the main treatment methods and allow for a content analysis that confirms the diagnosis [2, 4]. Surgical treatment is reserved for cases of uncertain diagnosis [8] or complicated cases (rupture, secondary infection); it consists of either a partial resection of the pseudocyst with drainage or a partial hepatectomy removing the whole pseudocyst [4]. Echo-endoscopic drainage by catheterization of the duodenal papilla may constitute an alternative to percutaneous or surgical treatment with a lower complication rate [5, 6].
- Conservative treatment is possible if the patient is asymptomatic and the size of the pseudocyst is less than 6 cm [4, 7, 10], but with a higher risk of complications; including secondary infection, rupture into free peritoneum, fistulization, compression of the bile ducts or portal system [4].

Conclusion :

- The use of imaging techniques such as CT scan and ultrasound is important in the diagnosis and management of this type of complications, aiding in treatment planning and postoperative monitoring, whether it is percutaneous drainage guided by imaging, or surgery (partial pseudocyst resection or partial hepatectomy). The radiologist must be aware of this rare complication in order to diagnose it with certainty and be a part of an early management.

Bibliography :

1. Guesmi F, Zoghlami A, Saidi Y, Najeh N, Dziri C. Pancreatic pseudocysts located in the liver: a systematic review of the literature. Tunis Med. 2009 Dec;87(12):801-4. PMID: 20209844.
2. Kim HJ, Jun CH, Park CH, Cho CK. Intrahepatic Pancreatic Pseudocyst Complicated by Pancreatitis: A Case Report. Korean J Gastroenterol. 2017 Oct 25;70(4):202-207. doi: 10.4166/kjg.2017.70.4.202. PMID: 29060959.
3. David Ancel; Mathieu Lefebvre; Laurent Peyrin-Biroulet; Laurence Chone; Andréa Sido; Denis Regent; Marc-André Bigard (2005). Pseudokystes hépatiques du foie droit au décours d'une pancréatite aiguë biliaire. , 29(6-7), 743–745. doi:10.1016/s0399-8320(05)82166-9.
4. Demeusy A, Hosseini M, Sill AM, Cunningham SC. Intrahepatic pancreatic pseudocyst: A review of the world literature. World J Hepatol. 2016 Dec 18;8(35):1576-1583. doi: 10.4254/wjh.v8.i35.1576. PMID: 28050239; PMCID: PMC5165272.
5. Chahal P, Baron TH, Topazian MD, Levy MJ. EUS-guided diagnosis and successful endoscopic transpapillary management of an intrahepatic pancreatic pseudocyst masquerading as a metastatic pancreatic adenocarcinoma (with videos). Gastrointest Endosc. 2009 Aug;70(2):393-6. doi: 10.1016/j.gie.2008.10.011. Epub 2009 Apr 25. PMID: 19394005.
6. Kibria R, Akram S, Ali SA. Successful endoscopic transpapillary management of intrahepatic pancreatic pseudocyst. JOP. 2010 Jan 8;11(1):41-4. PMID: 20065551.
7. Topno N, Ghosh S, Baruah A. A Rare Case Report of Hepatic Subcapsular Pseudocyst of Pancreas. J Clin Diagn Res. 2016 Dec;10(12):PD18-PD19. doi: 10.7860/JCDR/2016/21843.9087. Epub 2016 Dec 1. PMID: 28208933; PMCID: PMC5296506.
8. Casado D, Sabater L, Calvete J, Mayordomo E, Aparisi L, Sastre J, Lledo S. Multiple intrahepatic pseudocysts in acute pancreatitis. World J Gastroenterol. 2007 Sep 14;13(34):4655-7. doi: 10.3748/wjg.v13.i34.4655. PMID: 17729426; PMCID: PMC4611847.
9. Dhaka N, Samanta J, Kochhar S, Kalra N, Appasani S, Manrai M, Kochhar R. Pancreatic fluid collections: What is the ideal imaging technique? World J Gastroenterol. 2015 Dec 28;21(48):13403-10. doi: 10.3748/wjg.v21.i48.13403. PMID: 26730150; PMCID: PMC4690168.
10. Kim YH, Saini S, Sahani D, Hahn PF, Mueller PR, Auh YH. Imaging diagnosis of cystic pancreatic lesions: pseudocyst versus nonpseudocyst. Radiographics. 2005 May-Jun;25(3):671-85. doi: 10.1148/rg.253045104. PMID: 15888617.
11. Bollen TL, van Santvoort HC, Besselink MG, van Es WH, Gooszen HG, van Leeuwen MS. Update on acute pancreatitis: ultrasound, computed tomography, and magnetic resonance imaging features. Semin Ultrasound CT MR. 2007 Oct;28(5):371-83. doi: 10.1053/j.sult.2007.06.002. PMID: 17970553.
12. Balthazar EJ, Freeny PC, vanSonnenberg E. Imaging and intervention in acute pancreatitis. Radiology. 1994 Nov;193(2):297-306. doi: 10.1148/radiology.193.2.7972730. PMID: 7972730.