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Radiology

Collections Following Acute Pancreatitis: Contribution of Imaging, Particularly Computed Tomography, and Clinico-Radiological Correlation

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Abstract | **Original Research Article**

Introduction: Post-acute pancreatitis fluid collections are a frequent complication of acute pancreatitis. The 2012 revision of the Atlanta classification has standardized their definition and management. ***Objectives:*** To illustrate the contribution of imaging, particularly computed tomography, in the characterization of post-acute pancreatitis collections and their management. ***Methods:*** Retrospective study of 96 patients, including 43 suspected cases of complications, collected in the radiology department of the Avicenne Military Hospital in Marrakech between January 2024 and January 2025. ***Results:*** CT enabled the detection and characterization of all suspected complications involving post-pancreatitis fluid collections. It also facilitated the identification of all cases of infection or transformation of these collections, thus guiding optimal patient monitoring and management. ***Conclusion:*** Computed tomography (CT) is the gold standard for classification and evaluation. The evolution and therapeutic orientation of post-acute pancreatitis collections as indicated in the Atlanta classification. A progressive, imaging-guided approach optimizes management.

Keywords: Acute Pancreatitis, Pancreatic Collections, Atlanta Classification, Computed Tomography, Pancreatic Necrosis.

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I. INTRODUCTION

Acute pancreatitis is a common inflammatory condition whose course may be marked by the occurrence of pancreatic and peripancreatic collections [1].

The 2012 revision of the Atlanta classification allowed for better terminological standardization by distinguishing between:

- Acute peripancreatic fluid collections (PLFC)
- Acute necrotic collections (AN)
- Pancreatic pseudocysts (PPK)
- Organized necrosis of the pancreas (WON) [2]

Imaging, particularly computed tomography (CT), plays a central role in the diagnosis, classification, and detection of complications [3]. MRI provides additional information regarding the contents of collections and the integrity of the pancreatic duct [4].

The objective of our work is to analyze the radiological characteristics of post-pancreatic collections acute and to correlate our results with data from the literature.

II. PATIENTS AND METHODS

This is a retrospective study conducted over a one-year period (January 2024-January 2025). It included 96 cases of acute pancreatitis with suspected complications in 43 cases. The data were collected from the radiology, visceral surgery and intensive care-anesthetics departments.

The inclusion criteria were:

- Confirmed acute pancreatitis
- Suspicion of a pancreatic or peripancreatic collection
- Complete radiological assessment

Imaging examinations primarily included abdominal CT scans with contrast injection. notes.

III. RESULTS

At the end of the study, out of 96 cases of acute pancreatitis, CT scanning, which was more effective than ultrasound, made it possible to confirm the complication in 43 suspected cases. CT scanning, being more effective than ultrasound, has also allowed for the morphological characterization of these complications which were all

post-pancreatic fluid collections and to monitor their evolution.

CLAPs constituted the majority of observed collections (58.34%). Transformation into a pseudocyst Pancreatic involvement was observed in only one patient (4.54%). No infectious complications were noted. These results are consistent with the literature, which reports that less than 10% of CLAPs evolve into a pseudocyst [2-5]. CAN accounted for 41.56% of cases. CAN infection was observed in 9% of cases. The literature reports an infection rate of acute necrotic collections of between 20 and 40%, particularly after the second week of evolution [6]. MRI was useful for analyzing the necrotic contents and investigating signs of disconnection syndrome canal [4].

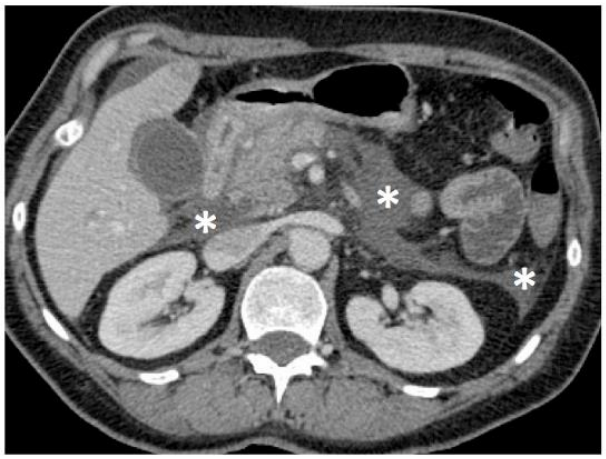

Figure 1. Acute peripancreatic fluid collections (*) in the context of edematous-interstitial pancreatitis complicating ERCP. No enhancement defect in the pancreatic parenchyma.

IV. DISCUSSION

All cases of suspected post-pancreatitis collections were confirmed by CT scan in 100% of cases. This is consistent with the literature on the sensitivity of CT for the detection of post-pancreatitis collections, which varies from 90 to 100% [8].

During surveillance, CT scans detected the only case of CLAP transformation into PKP. All CAN infections, which represented 9% of CAN cases, were detected by CT scan. These results are reminiscent of those in the literature which report a sensitivity of CT ranging from 80% to 100% for the detection of cases of complications of post-pancreatitis fluid collections [8].

Our results confirm the central role of CT in the detection, morphological characterization and optimal management of post-pancreatitis fluid collections [4].

V. CONCLUSION

Post-acute pancreatitis fluid collections present variable morphological characteristics requiring a rigorous analysis based on the revised Atlanta classification. Computed tomography remains the gold standard for the diagnosis, classification, and detection of complications. The majority of collections respond favorably to conservative treatment, with drainage being reserved with complicated shapes.

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