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A Rare Thoracoabdominal Location of Pancreatic Pseudocyst in Children: A Case Report

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Abstract **Case Report**

Pancreatic pseudocysts, common complications of chronic pancreatitis in children, can extend into unusual areas such as the mediastinum, presenting as Mediastinal Pancreatic Pseudocysts (MPP) with atypical symptoms. Imaging modalities such as CT, MRI, and endoscopic ultrasound are crucial for diagnosis. Management involves stabilizing the patient and addressing complications promptly. Surgical options include internal or external drainage, while newer techniques like endoscopic transmural stenting are being explored. However, the optimal management of MPP remains debatable and depends on various factors including etiology, pseudocyst size, and available expertise. We report the case of an 11 years old patient, with a MPP treated surgically in our department.

Keywords: Pseudocyst, Pancreas, Thoracoabdominal, Children.

INTRODUCTION

Pancreatic pseudocysts are circumscribed collections of fluid rich in pancreatic enzymes, blood and necrotic tissue. They are relatively common complications of chronic pancreatitis in children. Most often, they expand into surrounding structures, but sometimes can be localized in unusual areas, one such is the mediastinum [1].

Mediastinal pancreatic pseudocyst (MPP) is a rare finding, often presenting with atypical symptoms [2]. It was first described in 1951 [3].

Typically, Pancreatic pseudocyst manifests as a palpable mass within the abdomen, which tends to grow in the path of least resistance. However, mediastinal pseudocysts, which decompress through the diaphragm, are often not detectable by palpation [4].

We report the case of an 11years old female patient with a thoracoabdominal location of a pancreatic pseudocyst.

CASE REPORT

This concerns R.M., an 11-year-old girl, who had a history chronic pancreatitis with medical therapy. She was admitted to the Surgery A department of the Children's Hospital of Rabat, Morocco, for management of severe thoracic pain.

On clinical examination, the child was conscious but in pain, with a fairly good general condition. Thoracic examination revealed a syndrome of fluid collection at the right basal level, while abdominal examination was unremarkable.

The patient underwent a chest X-ray showing a right basithoracic effusion (Fig 1).

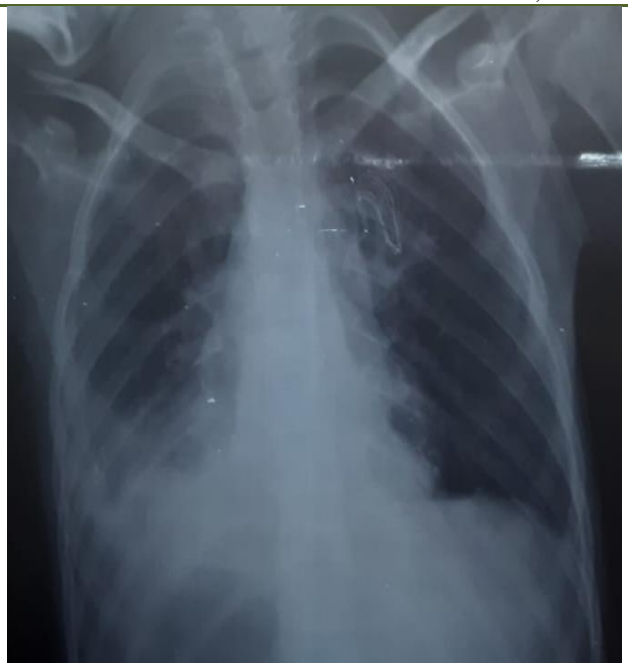

Figure 1: Chest X-ray showing a right basithoracic effusion

A thoraco-abdominal CT scan revealed the presence of a lower right mediastinal process, with central necrosis, measuring 36*26 mm (Fig 2), associated with another lesion with similar characteristics located above the pancreas and behind the stomach, measuring 4 mm in diameter, suggestive of a pancreatic pseudocyst (Fig 3).

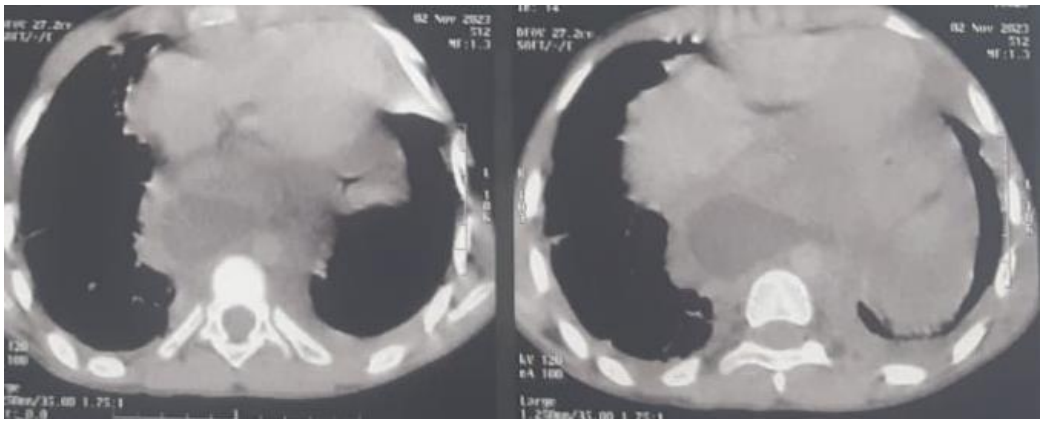

Figure 2: Thoracic CT scan showing a mediastinal mass

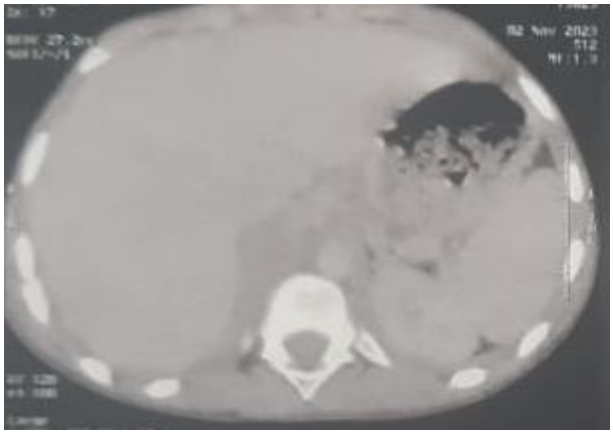

Figure 3: Abdominal CT scan showing a peri-pancreatic edema

The therapeutic decision was to surgically drain the mediastinal cyst and collect fluid for biochemical analysis, which showed very high levels of lipase and amylase. Therapeutic abstention was chosen for the abdominal cyst due to its small size.

Short-term evolution was marked by the disappearance of thoracic pain and improvement in the patient's general condition.

Two months later, the patient presented to our service with stabbing epigastric abdominal pain. Abdominal CT scan showed an increase in the size of the abdominal cyst from 4mm to 62mm in diameter.

The patient underwent cystogastrostomy (Fig 4) with good evolution and uncomplicated postoperative course.

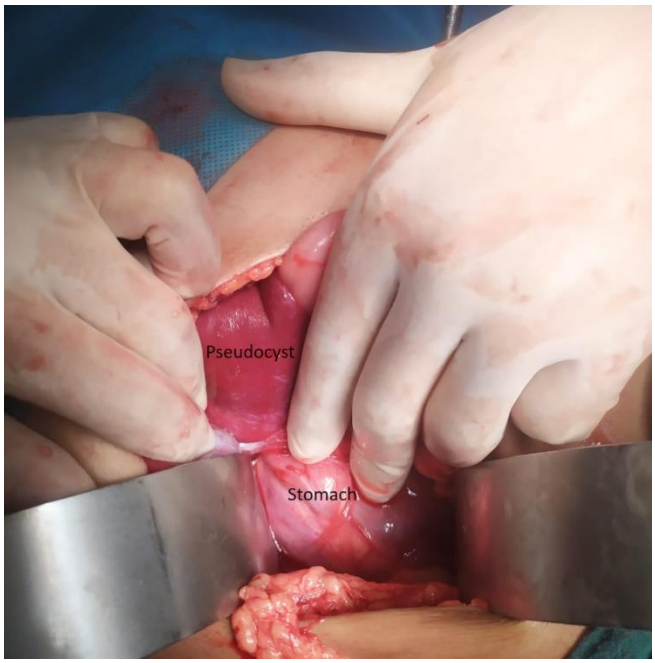

Figure 4: Image showing a per operative view of the cystogastrostomy

DISCUSSION

The prevailing theory regarding MPP suggests that it occurs when an abdominal pseudocyst extends into the mediastinum via the hiatal openings or through the diaphragmatic crura. Another potential cause could be the presence of ectopic pancreatic tissue in the mediastinum, resulting from abnormal differentiation of pluripotent epithelial cells in the ventral primary foregut or migration of cells from the pancreatic bud [5].

The possibility of a pancreatic pseudocyst might not be initially contemplated when a patient presents with a posterior mediastinal mass [2]. Diagnosis of pancreatitis can be delayed due to nonspecific symptoms such as dysphagia, dyspnea, cough, hemoptysis, pleural effusions, and chest pain [6], absence of typical medical history, and the limited reliability of serum amylase levels as an indicator. This delay is particularly common in cases of mediastinal pseudocysts, where there is rarely an abdominal mass to prompt consideration of the diagnosis [4]. Managing these pseudocysts is particularly challenging due to their rarity and intricate pathophysiology [7]. In our case, the location was thoracoabdominal, and pain was the main symptom.

A chest X-ray may not provide a conclusive diagnosis but can reveal the presence of pleural effusion. For accurate diagnosis, CT imaging is superior to ultrasonography, and MRCP (Magnetic Resonance Cholangiopancreatography) is essential for evaluating ductal anatomy. Endoscopic ultrasound provides detailed information about the pancreas and any potential duct communication. Endoscopic ultrasound-guided fluid aspiration and subsequent fluid analysis serve as the definitive diagnostic procedure [8]. Our patient underwent a chest X-ray revealing minimal pleural effusion, followed by thoraco-abdominal CT scan, leading to the diagnosis of MPP.

In all patients with pancreatitis, prioritizing patient stabilization is essential. Spontaneous resolution of pseudocysts occurs in approximately 50% of cases, with complications observed in 5%-40% of cases [9]. If there is any ductal obstruction or communication with the cyst, it should be addressed initially with ERCP (Endoscopic Retrograde Cholangiopancreatography) stenting. Surgical options for managing pseudocysts include internal or external drainage. Internal drainage methods encompass cystogastrostomy and Roux-en-Y cystojejunostomy, which can be performed via open, laparoscopic, or endoscopic approaches. However, these options are not applicable for mediastinal pseudocysts. A

newer technique involving endoscopic transmural stenting has been reported, albeit with varying success rates [9, 10]. Endoscopic or thoracoscopic aspiration of pseudocysts has also been documented [10]. Endoscopic ultrasound is increasingly employed for transmural endoscopic drainage. Sadat *et al*., reported cysto-gastrostomy as a viable option for complex mediastinal cysts [11].

CONCLUSION

The optimal management of mediastinal pseudocysts remains a topic of debate and is contingent upon factors such as the underlying cause, ductal anatomy, pseudocyst size, and the expertise of the surgical team.

Conflict of Interests: The authors have no conflict of interests to declare.

REFERENCES

1. Machado, N. O. (2012). Pancreaticopleural fistula: revisited. *Diagn Ther Endosc*, 2012, 815476. 10.1155/2012/815476
2. de Polavieja Carrasco, M. G., offnández Rico, R., Yagüe, E. G., Sarrias, J. I., Jimenez, C. M., & Sánchez, D. B. (1994). Massive hemoptysis as the onset of pancreatico-bronchial fistula. *Revista espanola de enfermedades digestivas*, *86*(6), 923-925.
3. Topa, L., László, F., Sahin, P., & Pozsár, J. (2006). Endoscopic transgastric drainage of a pancreatic pseudocyst with mediastinal and cervical extensions. *Gastrointestinal endoscopy*, *64*(3), 460-463. DOI: 10.1016/j.gie.2006.04.009]
4. Crombleholme, T. M., deLorimier, A. A., Adzick, N. S., Longaker, M. T., Harrison, M. R., Cox, K. L., & Heyman, M. B. (1990). Mediastinal pancreatic pseudocysts in children. *Journal of pediatric surgery*, *25*(8), 843-845.
5. Rokach, A., Izbicki, G., Deeb, M., Bogot, N., Arish, N., Hadas-Halperen, I., ... & Golomb, E. (2013). Ectopic pancreatic pseudocyst and cyst presenting as a cervical and mediastinal mass-case report and review of the literature. *Diagnostic Pathology*, *8*, 176-180.
6. Byrne, M. F., Mitchell, R. M., & Baillie, J. (2002). Pancreatic Pseudocysts. *Curr Treat Options Gastroenterol*, 5, 331-338. doi: 10.1007/s11938-002-0021-2
7. Panyko, A., Vician, M., Dubovský, M., & Škubla, R. (2020). Mediastinal Pancreatic Pseudocyst with Hemoptysis–A Thoracic Complication of Pancreatitis. *Cureus*, *12*(11).
8. Groeneveld, J. H., a Lieng, J. G. T., & de Meijer, P. H. (2006). Resolution of a complex mediastinal pseudocyst in a patient with alcohol-related chronic pancreatitis following abstinence from alcohol. *European journal of gastroenterology & hepatology*, *18*(1), 111-113. DOI: 10.1097/00042737-200601000-00020
9. Vitas, G. J., & Sarr, M. G. (1992). Selected management of pancreatic pseudocysts: operative versus expectant management. *Surgery*, *111*(2), 123-130.
10. Beauchamp, R. D., Winselt, M., & Nealon, W. H. (1989). Operative strategies in the management of mediastinal pancreatic pseudocyst. *Surgery*, *106*(3), 567-570.
11. Sadat, U., Jah, A., & Huguet, E. (2007). Mediastinal extension of a complicated pancreatic pseudocyst; a case report and literature review. *Journal of Medical Case Reports*, *1*, 1-3. doi: 10.1186/1752-1947-1-12