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Congenital Pancreatic Cyst in a Newborn

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Abstract

Congenital pancreatic cysts are very rare in newborns. The case of a neonatal congenital pancreatic cyst is reported. A male new-born with a true congenital pancreatic cyst was treated surgically. His medical chart was reviewed. A 3010 g male at 38+3weeks gestation was delivered via section. He had an antenatally detected intraabdominal cyst, which resembled a mesenteric cyst. Postpartum radiological evaluation via sonography revealed a pancreatic cyst. After the perinatal period, he underwent total surgical excision of the pancreatic cyst. Congenital pancreatic cyst is very rare in the paediatric age group and should be considered in the differential diagnosis of cystic lesions of the pancreas in infants and children. Complete surgical excision is the treatment of choice.

Keywords: Congenital pancreatic cyst, newborn, childhood, pancreatic cyst

I. Introduction

Congenital pancreatic cysts are extremely rare in infants and children and set up diagnostic and surgical challenges.

Prenatal diagnosis of congenital pancreatic cysts is extremely rare, and they are mostly discovered as an incidental asymptomatic abdominal swelling.

They can reach large dimensions and may cause abdominal distention or become symptomatic as a result of pressure on adjacent viscera [1].

Exact preoperative diagnosis of congenital pancreatic cysts is difficult, as a mesenteric cyst, duplication cyst or pancreatic pseudocyst should be considered in the differential diagnosis [1-4].

The exact aetiology of congenital pancreatic cysts is not known. The main consensus is that they represent the sequestration of primitive pancreatic ducts [5,6].

Once diagnosed, the preferred treatment of congenital pancreatic cyst is total surgical excision. If this is not possible, internal drainage and preferably a Roux-en-Y cystojejunostomy should be performed [1,2,4].

This report describes a case of true congenital pancreatic cyst. The literature on the subject is also reviewed.

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II. Material and methods

A 3010 g male at 38+3 weeks gestation was delivered, with Apgar scores of 9 at 1min and 10 at 5 min respectively, via section, with an antenatally diagnosed intraabdominal cyst.

Antenatal sonography revealed a mesenteric cyst; however, postpartum sonography revealed a 6 cm cystic lesion suspicious for a congenital pancreatic cyst (Fig. 1).

After the perinatal period, namely on the 12th day of life, the cyst was surgically removed. He was operated on via a transverse upper abdominal incision. The cyst showed adhesions to the posterior wall of the stomach and an attached stalk of tissue on the cauda pancreas (Fig. 2).

Because of the huge dimensions of the cyst within the new-born, the cyst fluid was firstly aspirated to make the cyst smaller. Then, all the adhesions were successfully dissected, and the whole cyst was removed without any surgical complications (Fig. 3).

The postoperative period was uneventful, and the baby discharged on the 5th day after the operation. Histological investigation revealed a congenital pancreatic cyst (Fig. 4).

No complications occurred during the 14-month follow-up period.

III. Results and discussion

Pancreatic cysts are classified into the following six types: congenital/developmental cysts, retention cysts, duplication cysts, pseudocysts, neoplastic cysts, and parasitic cysts [7].

Posttraumatic pancreatic pseudocysts are most the frequently encountered, and their walls do not contain epithelial components.

Congenital pancreatic cysts are extremely rare in children and are mostly found in girls.

Antenatal diagnosis is usually not possible. As in our case, it was an abdominal cyst that was detected and considered a mesenteric cyst. First, it was the sonographic examination after the birth that demonstrated the location of the truncus coeliacus with respect to the cyst wall and also showed great suspicion for a congenital pancreatic cyst.

In our case, the cyst had a stalk towards the tail of the pancreas, which was evaluated as an indicator of ductal developmental anomaly.

Histology revealed typical cells of pancreatic tissue on the cyst wall, and they were seen as epithelium in a single cell layer (Fig. 4) of the congenital pancreatic cyst. As a result, we confirmed the diagnosis of a congenital pancreatic cyst.

The exact aetiology of congenital pancreatic cysts is unknown. It is accepted that true congenital pancreatic cysts occur as a result of developmental anomalies related to the sequestration of primitive pancreatic ducts [6].

Congenital pancreatic cysts are generally asymptomatic. However, when they become symptomatic (usually starting in the 2nd year of life), abdominal distention, vomiting, jaundice, or pancreatitis can be observed [1,2].

The localization of the cysts are frequently in the tail or neck of the pancreas (62%). Localization in the head of the pancreas has been reported in 32% of cases [1].

In our case, it was determined that the cyst had originated from the tail of the pancreas.

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With regard to congenital pancreatic cysts, the amylase level is usually low in the cystic fluid. This can be used to differentiate it from a retention cyst, in which the enzymatic activity is considerably higher (1000–3000 U/L).

In our patient, the cystic fluid had an amylase level of 354 U/L, which was greater than the amylase level of the serum. Although the amylase level of the cystic fluid was higher than the normal limits, it was lower than the value expected for a retention cyst.

He had a normal serum amylase level but elevated lipase level of 573 U/L, which decreased to 15 U/L after the operation (which was in the normal range). Of the radiological methods, ultrasonography is a first choice among children.

However, for accurate localization of abdominal masses, there may be the necessity for computed tomography (CT) or magnetic resonance imaging (MRI).

In our case, we only performed sonography. Our experienced paediatric radiologists reported the important necessary anatomical information for the operative plan and predicted the origin of the cyst from the pancreas. With these preoperative findings, we did not perform any further radiological examinations and performed explorative laparotomy with successful total excision of the pancreatic cyst.

IV. Conclusion

In conclusion, congenital pancreatic cysts are seen very rarely in children. The first choice of treatment is total excision of the cyst. If this is not possible, internal drainage methods, principally cystojejunustomy, are advisable.

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Figure 1: The area just below the cyst with the truncus coeliacus (arrow) shows a great deal of suspicion for a pancreatic cyst.

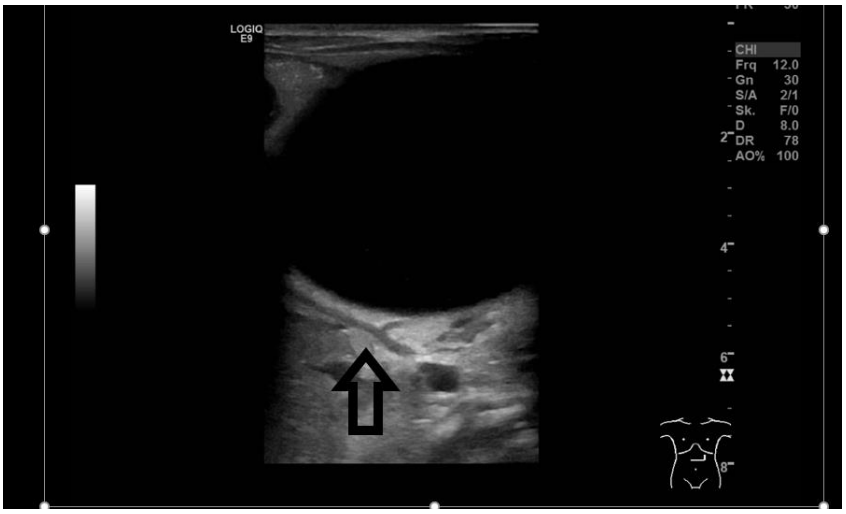

Figure 2: Preoperative view showing an attached stalk of tissue on the cauda pancreas.

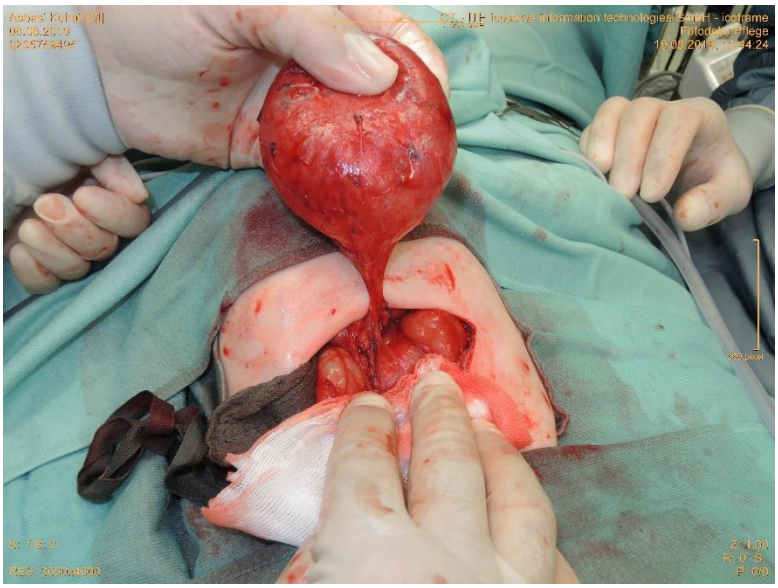

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Figure 3: Pathologic specimen of the cyst measuring 10 cm.

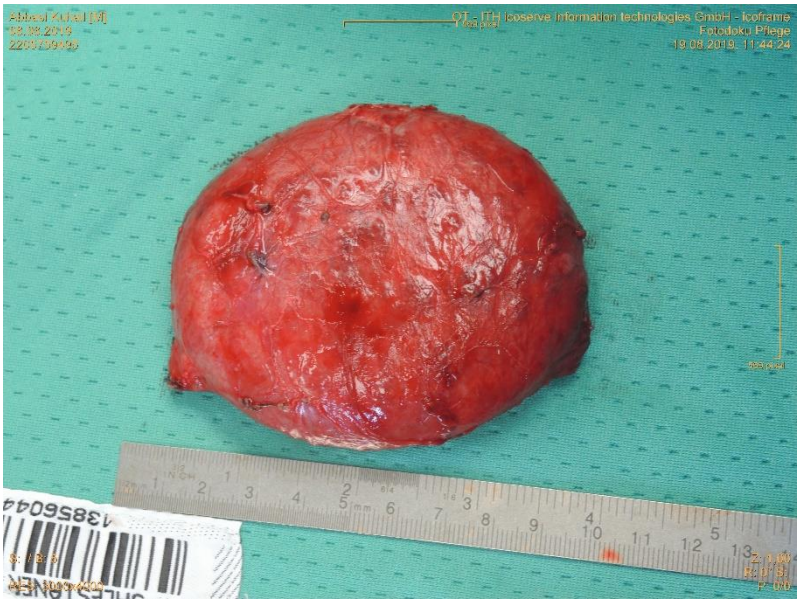

Figure 4: Histologic examination (H&E*, 10X) of the cyst wall with pancreatic tissue (arrow) and epithelium in a single cell layer (arrowhead). *[Hemotoxylin eosin]