



Pancreatic pseudocyst after measles, mumps, and rubella vaccination

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To the Editor,

We present the case summary of an unusual association of a pancreatic pseudocyst with measles, mumps, and rubella (MMR) vaccination. There are reports of acute pancreatitis in children after MMR vaccination but the development of a pancreatic pseudocyst has never been reported. There are only two reports of acute pancreatitis after MMR vaccination (1,2). This is probably the first reported case of acute pancreatitis after MMR vaccination, leading to the formation of a pancreatic pseudocyst.

A 15-month-old boy presented to our hospital with visible swelling in the epigastric region and decreased oral intake for the previous 2 weeks. There was no history of trauma, vomiting, fever, or repeated chest infections. The mother was very emphatic in stating that the child has not been well since he received an MMR vaccination shot a month ago. According to her, child developed a high-grade fever, which lasted for a week, and responded to antipyretics and intravenous antibiotics. Contrast-enhanced computed tomography (CT) revealed a cystic mass behind the stomach, and considering the visible thick walls of the cyst in CT the possibility of foregut duplication cyst was put forward; however, the cyst was confined to the posterior wall of the stomach and there was no extension to the thorax (Figure 1a-c). Ultrasonography of the abdomen clearly showed the lower margin of the cyst merging with the irregular body of the pancreas with the main pancreatic duct traversing the cyst (Figure 2a, b); meanwhile the

serum amylase and lipase levels were also significantly elevated correlating with evidence of acute pancreatitis in recent past (Table 1). A detailed written and informed consent was obtained from the parents, following which the child underwent exploratory laparotomy and transgastric cystogastrostomy; amylase level in the cystic aspirate was also elevated (1487 IU/L). Patient was put on oral diet starting postoperative day five and was discharged on postoperative day seven.

Acute pancreatitis leads to peripancreatic inflammation, the serous exudates get collected and form a pancreatic pseudocyst. Most of this collection gets resolved in 4-6 weeks. Imaging is usually preferred not only for diagnosis but also for deciding the better mode of management. On cross-sectional imaging (either contrast-enhanced CT or contrast-enhanced magnetic resonance imaging), pancreatic pseudocysts are seen as well-defined fluid collections with or without internal septation. Fluid-debris level in peri-pancreatic location associated with signs of pancreatitis, and peri-pancreatic signs of inflammation were not well visualised in our case. Imaging also helps detect the main pancreatic ductal communication with the cyst. In children, however, high-resolution ultrasonography may be equally useful in such cases as seen in our index case.

After the confirmation of pancreatic pseudocyst, the definitive management should be deferred for 4-6 weeks. During this time, the cyst may either completely resolve or the fibrous wall may mature. The ideal time for surgical drainage is when the cyst

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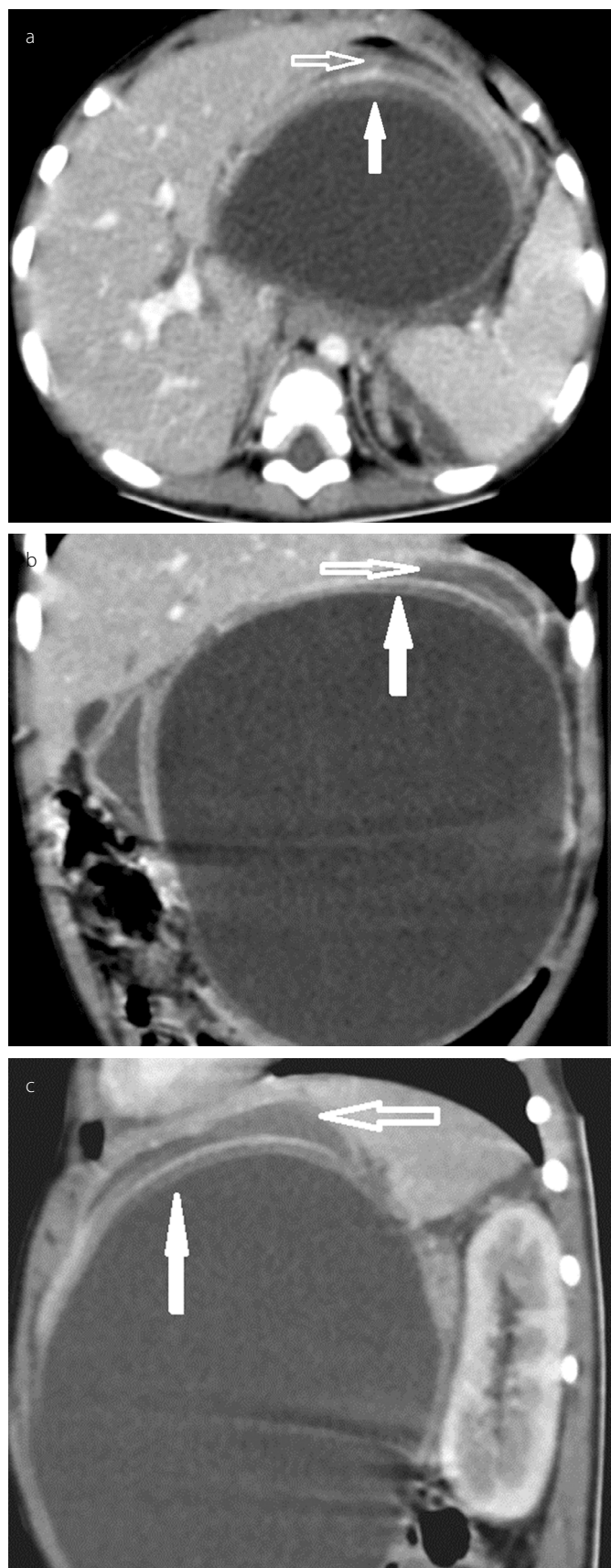


Figure 1. a-c. Transaxial (a), coronal (b), and sagittal (c) T1-weighted magnetic resonance images show a thick-walled (white solid arrows), cystic lesion in the left upper abdominal region, anteriorly displacing and compressing the stomach (white hollow arrows)

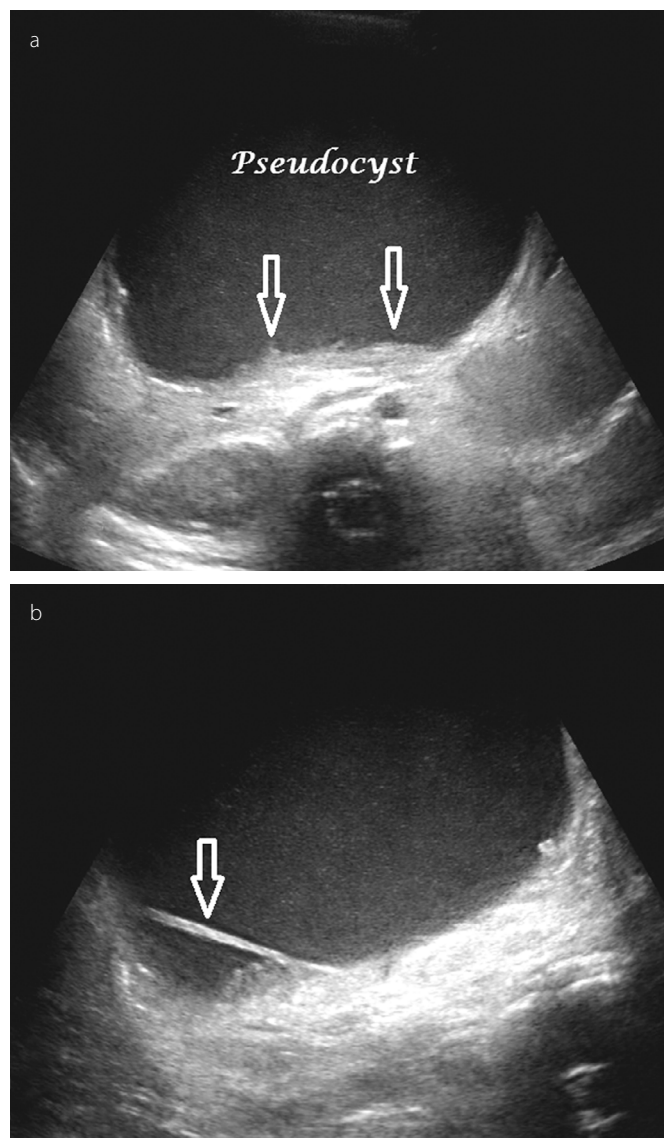


Figure 2. a,b. Transaxial (a) and oblique sagittal plane (b) high-resolution, linear-ultrasonography, upper abdominal images through the epigastrium, showing cystic collection with low-level internal echoes anterior to the irregular, residual pancreatic parenchyma (white hollow arrow) and main pancreatic duct traversing the pseudocyst (white solid arrow)

is 6 weeks old, and the size is more than 5 cm in diameter. Various surgical modalities for internal drainage are trans-gastric and endoscopic cystogastrostomies. If the cyst is very adherent to the duodenum, the most acceptable internal drainage will be Roux-en-Y cysto-jejunostomy. Distal pancreatectomy is reported in pseudocysts involving only the tail. External drainage has also been reported, but the complication rate such as fistula formation and recurrence rate are higher.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Teerthankar Mahaveer Medical College and Research Centre.

Informed Consent: Written informed consent was obtained from the parents of the patient who participated in this study.

Table 1. Investigations

Hemoglobin	8.4 g%
Total leukocyte count	7900 (N49% L41% E4% M6%) Cells/dL
Serum amylase	61 IU/L
Serum lipase	908 IU/L
Serum urea	16 mg/dL
Serum creatinine	0.56 mg/dL
Serum calcium	8.9 mg/dL
Serum phosphorus	3.3 mg/dL
Alkaline phosphatase	168 U/L
Serum Sodium/Potassium	137/4.3 mg/dL
Serum bilirubin (direct/indirect)	0.5 (0.2/0.3) mg/dL
AST/ALT	45/16 IU/L
Serum albumin/globulin	3.9/2.1 gm/dL
HIV 1 & 2	Negative
HBsAg	Negative
HCV	Negative
Amylase level in cystic aspirate	1487 IU/L

AST: aspartate aminotransferase; ALT: alanine aminotransferase; HIV: human immunodeficiency virus 1 & 2; HBsAg: Hepatitis 'B' surface antigen; HCV: hepatitis 'C' virus

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