



Case Report

A rare case of severe anaemia due to pancreatic pseudoaneurysm complicated by COVID-19

Nadiya Shajahan¹, K. S. Sahana¹, Prakash R. M. Saldanha¹

¹Department of Paediatrics, Yenepoya Medical College, Mangalore, Karnataka, India.

*Corresponding author:

Nadiya Shajahan,
Department of Paediatrics,
Yenepoya Medical College,
Mangalore, Karnataka, India.

nadiya209@gmail.com

Received: 08 June 2022
Accepted: 04 September 2022
Epub Ahead of Print: 08 October 2022
Published: 16 November 2022

DOI
10.25259/KPJ_15_2022

Quick Response Code:



ABSTRACT

Pancreatitis in children is now diagnosed more frequently with an incidence of acute pancreatitis turning to chronic being 20–25%. Pancreatic pseudoaneurysm is a rare and life-threatening complication of chronic pancreatitis. An adolescent a known case of chronic pancreatitis for 3 years, presented with a history of recurrent black-coloured stools for 1 month and haematemesis, fever and cough for 2 days. The child was pale and febrile with tachypnoea and tachycardia with severe tenderness in the epigastric and umbilical regions. Investigations showed severe anaemia (Hb-1.4 g/dL) with positive COVID-19 Reverse transcription-polymerase chain reaction. Computed tomography abdomen showed pancreatitis with a pseudocyst, pseudoaneurysm from the gastroduodenal artery and consolidation in lung COVID 19 Reporting and data system. The child was treated symptomatically along with multiple packed red blood cells transfusions. Selective catheterisation and stent grafting of the gastroduodenal artery was performed. This case report highlights an unusual complication of pancreatitis with concurrent COVID infection.

Keywords: COVID infection, Pancreatitis, Pseudoaneurysm

INTRODUCTION

The annual incidence of acute pancreatitis is 3.6–13.2/100,000 children according to Grzybowska-Chlebowczyk *et al.*^[1] research. About 20–25% of these cases develop into chronic pancreatitis, 10–23% result in pseudocysts and 5–10% lead to pseudoaneurysms.^[2,3] Idiopathic chronic pancreatitis is the most common form of chronic pancreatitis in young children and teenagers.^[4] Over the past several months, a few case reports have provided evidence to support the hypothesis that pancreatitis and COVID-19 infection are linked. Although acute pancreatitis is reported more frequently with COVID-19, there are only a few case reports that imply that chronic pancreatitis itself is a risk factor for COVID-19.^[5,6] Here, we report a very unusual instance of pancreatic pseudoaneurysm that was exacerbated by COVID-19 and successfully managed despite its rarity.

CASE REPORT

An adolescent who was a known case of chronic pancreatitis for the past 3 years, presented with 1 month history of recurrent black-coloured stools and 2 days history of fever, cough and haematemesis. On clinical examination, she was febrile with tachypnoea and tachycardia and had severe pallor. Abdominal examination revealed severe tenderness in the epigastric and umbilical regions. Other systemic examination was within normal limits.

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, transform, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

©2022 Published by Scientific Scholar on behalf of Karnataka Paediatric Journal

MANAGEMENT AND OUTCOME

Blood investigations showed severe anaemia (Hb level of 1.4 g/dL), thrombocytosis ($5.58 \times 10^3/\mu\text{L}$), elevated serum lipase (1253 units/L) and D-dimer levels of >1000 ng/ml. Peripheral smear showed severe microcytic hypochromic anaemia with thrombocytosis.

Since the child was sick on arrival, she was started on broad-spectrum antimicrobials and supportive care (IV fluids and blood transfusion) and kept nil per orally. The results of COVID-19 RTPCR were positive. Multidetector computed tomography abdomen and pelvis revealed a bulky appearing pancreas and showed evidence of well-defined hypodense cystic collection in head of the pancreas suggestive of pseudocyst, which is seen to communicate with the dilated main pancreatic duct (4.5 mm), with an exophytic component extending posteriorly along the lesser omentum and superiorly into the oesophageal hiatus. A pseudoaneurysm measuring 5 mm was seen along the wall of the pseudocyst, which originates from the gastroduodenal artery [Figure 1].

Computed tomography (CT) sections through supradiaphragmatic regions showed patchy areas of ground-glass opacities with consolidation in the left lower lobe (CO-RADS score - 5). Cardiomegaly was seen, along with mild pericardial effusion. CT angiography confirmed the presence of the pseudoaneurysm [Figure 2] and the patient underwent selective catheterisation and stent grafting of the gastroduodenal artery [Figure 3]. IV anticoagulants and antiplatelets were administered postoperatively. Vitamin C and zinc supplements were given according to the COVID guidelines. Follow-up imaging after 6 months revealed complete resolution of pancreatic lesions.

DISCUSSION

Pancreatic pseudocyst is a circumscribed collection of fluids rich in pancreatic enzymes, as well as blood and necrotic tissue. Erosion of the pancreatic or peripancreatic artery into a pseudocyst leads to the formation of a pancreatic pseudoaneurysm. The most common artery affected by pseudoaneurysm is the splenic artery followed by gastroduodenal artery. Even though spontaneous resolution of pancreatic pseudocysts can occur, the surgical treatment of pancreatic pseudocyst is valid and effective, especially in complicated cases. Proper management of bleeding pancreatic pseudoaneurysm may require the use of vessel embolisation or stenting, as well as ligation of the offending artery, depending on the patient's haemodynamic stability.

However, COVID-19 may be just a coincidental finding in our study until further studies confirm the correlation. The mechanism behind pancreatitis in COVID infection is unclear; perhaps, it may be due to a direct cytopathic impact from the virus, or it may be a consequence of ischaemic

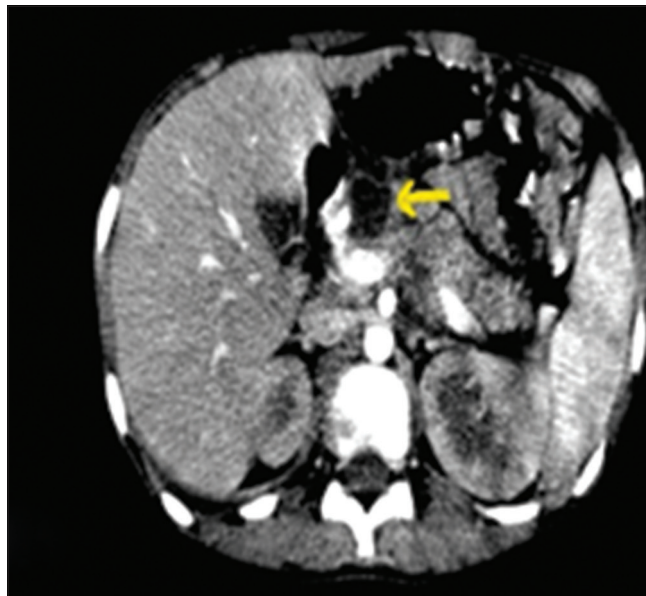


Figure 1: MDCT abdomen showing a well-defined hypodense cystic collection in the region of head of the pancreas suggestive of pseudocyst and pseudoaneurysm along the wall of pseudocyst.

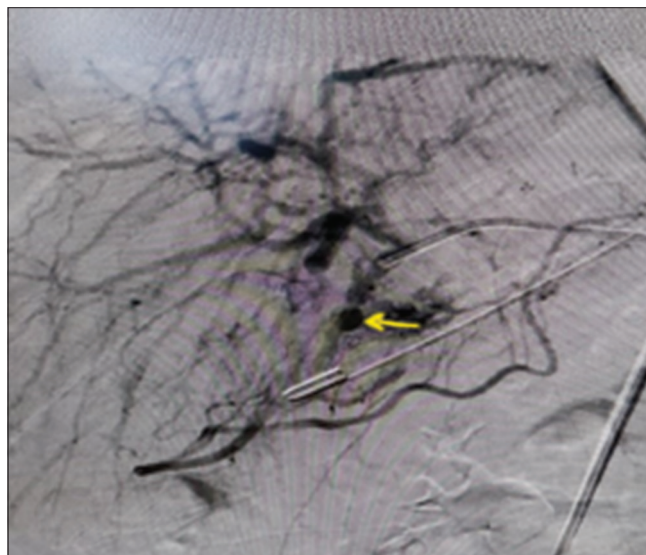


Figure 2: Computed tomography angiography showing pseudoaneurysm from the gastroduodenal artery.

and systemic inflammatory states that can occur with Multisystem inflammatory syndrome in children.^[7] A high index of suspicion of pancreatitis should be kept in children with pain abdomen with COVID-19.

CONCLUSION

We conclude that any GI bleeding, especially upper GI bleeding in a patient with pancreatitis and pseudocyst, a possibility of pseudoaneurysm should be considered. Prompt

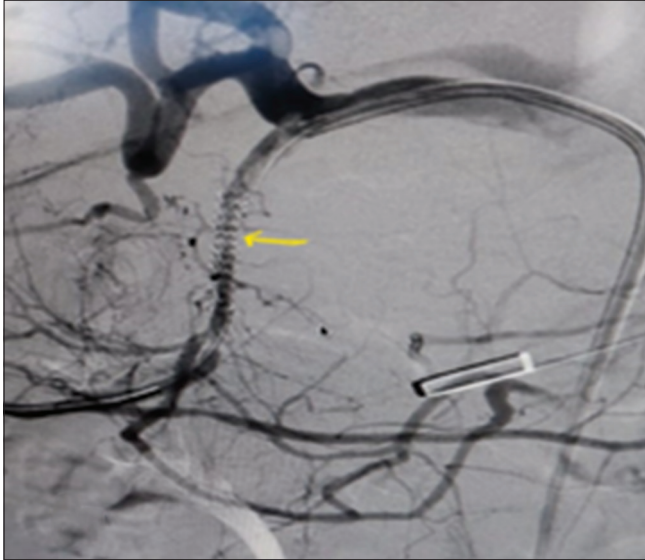


Figure 3: Reduction of pseudoaneurysm after stent grafting.

diagnosis and early treatment are mandatory because of potentially life-threatening consequences and an increase in the mortality rate of up to 90% if left untreated.^[2]

Declaration of patient consent

Patient's consent not required as patient's identity is not disclosed or compromised.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Grzybowska-Chlebowczyk U, Jasielska M, Flak-Wancerz A, Więcek S, Gruszczynska K, Chlebowczyk W, *et al.* Acute pancreatitis in children. *Prz Gastroenterol* 2018;13:69-75.
2. Hoilat GJ, Mathew G, Ahmad H. *Pancreatic Pseudoaneurysm*. Treasure Island, FL: StatPearls Publishing; 2021.
3. Al-Salem AH. Pancreatitis and pancreatic pseudocyst. In: *Atlas Pediatric Surgery*. Cham: Springer; 2020. p. 221-7.
4. Chowdhury SD, Chacko A, Ramakrishna BS, Dutta AK, Augustine J, Koshy AK, *et al.* Clinical profile and outcome of chronic pancreatitis in children. *Indian Pediatr* 2013;50:1016-9.
5. Samies NL, Yarbrough A, Boppana S. Pancreatitis in pediatric patients with COVID-19. *J Pediatric Infect Dis Soc* 2021;10:57-9.
6. Gubatan J, Levitte S, Patel A, Balabanis T, Sharma A, Jones E, *et al.* Prevalence, risk factors and clinical outcomes of COVID-19 in patients with a history of pancreatitis in Northern California. *Gut* 2021;70:440-1.
7. Suchman K, Raphael KL, Liu Y, Wee D, Trindade AJ, Northwell COVID-19 Research Consortium. Acute pancreatitis in children hospitalized with COVID-19. *Pancreatology* 2021;21:31-3.

How to cite this article: Shajahan N, Sahana KS, Saldanha PR. A rare case of severe anaemia due to pancreatic pseudoaneurysm complicated by COVID-19. *Karnataka Paediatr J* 2022;37:55-7.