International Surgery Journal
Shruthi KV et al. Int Surg J. 2017 Feb;4(2):816-818
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20170241

Case Report

An unusual case of relative polycythemia with complication of pseudocyst of pancreas

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Received: 28 October 2016
Accepted: 28 November 2016

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ABSTRACT

Relative polycythemia is a term used to describe an elevation of the hematocrit level either caused by an acute transient state of hemoconcentration associated with intravascular fluid depletion or a chronic sustained relative polycythemia caused by contraction of the plasma volume. Relative polycythemia can occur when the plasma volume is reduced due to intravascular volume depletion during acute pancreatitis episode, complicating as pseudocyst of pancreas. We report a case of Relative Polycythemia with pseudocyst of Pancreas a secondary complication of pancreatitis.

Keywords: Acute pancreatitis, Hematocrit, Pseudocyst of pancreas, Relative polycythemia

INTRODUCTION

Relative polycythemia is a term used to describe an elevation of the hematocrit level either caused by an acute transient state of hemoconcentration associated with intravascular fluid depletion or a chronic sustained relative polycythemia caused by contraction of the plasma volume. Relative polycythemia can be complicated with thrombosis. Portal, splenic or mesenteric vein thrombosis are some examples of the major thrombotic events that can be seen in relative polycythemia patients due to excessive smoking and Alcohol associated with this disease.

Pseudocyst of pancreas is defined as fluid collection arising in association with acute pancreatitis of > 4 weeks duration and surrounded by a well-defined wall of granulation tissue.[1] Most pseudocysts include sterile material. There is no need for treatment for an asymptomatic pseudocyst.[2,3] We report a case of relative polycythemia with pseudocyst of pancreas, a secondary complication of pancreatitis. Patient was treated conservatively with adequate hydration, advised modification of life style, explained about the risk of thromboembolism. Patient is on regular follow up visits, showed good resolution of pseudocyst.

CASE REPORT

A 27 years old male, an alcoholic and a smoker was admitted for epigastric pain radiating to back, for two days duration. Patient gave previous episode of severe epigastric pain, vomiting, undergone treatment for acute pancreatitis 2 months ago. His previous clinical report showed, haemoglobin - 21.1g/dl, hematocrit - 63.8%, CT (computed tomography) contrast abdomen showed pseudocyst of size 1.3 x 2.1 cm on body and 3.5 x 3.1 cm in tail of pancreas.

Physical examination revealed an acutely ill man, with blood pressure of 130/80/mm Hg, Pulse rate 90 beats / min, temperature of 99.2 °F, (37.3 °C). Findings included

left side rales, there was vague fullness at left hypochondrium, tenderness in epigastrium. Laboratory data showed in Table 1. Haemoglobin measured was 19.5 g/dl, Hematocrit measured was 53.2% done on first day of admission during acute pancreatitis revealed polycythemia. On admission, it was felt that the patient's elevated Haemoglobin, hematocrit was probably related to blood disorders, and he was investigated for polycythemia. Serum erythropoietin measured by Chemiluminescent immunometric assay was 14.20 mIu/ml. JAK 2 mutation analysis (V617F) measured by real time polymerase chain reaction was negative. Chest X-ray revealed left pleural effusion. Patient was treated with somatostatin analogue, proton pump inhibitors and hydrated with IV fluids. His serum lipase was 494µ/L and serum amylase was 153µ/L.

Contrast CT abdomen revealed (Figure 1), acute pancreatitis with pseudocyst formation with cystic lesion in the tail of pancreas measuring 4.3 x 3.5cm, another cystic lesion in the body of pancreas measuring. 1.5 x 1.1 cm, rest of abdomen was normal with left minimal pleural effusion, which confirmed, acute pancreatitis with pseudocyst of pancreas. Patient was treated conservatively for acute pancreatitis and he was doing well. A repeat haemoglobin was 15 g/dl and Hematocrit was 45% after adequate hydration. Relative polycythemia was diagnosed along with pseudocyst of pancreas. Patient advised modification of life style, explained about the risks of thromboembolism. Patient is on regular follow-up visits, showed good resolution of pseudocyst.

Table 1: Relative polycythemias in acute pancreatitis lab parameters.

Lab parameter	On admission	Repeat value after hydration
Hemoglobin in (g/dl)	19.5	15
Hematocrit (%)	52.2	45
Serum amylase < 100µ/l	153	
Serum lipase <64 µ/l	494	

Figure 1: Contrast CT abdomen of pseudocyst of pancreas.

DISCUSSION

Severe acute pancreatitis causes massive loss of fluid in to the retroperitoneal spaces. As a result, there is tachycardia and these are the markers for significant early depletion of intravascular volume. These may soon progress to hypovolvemic shock caused by increased vascular permeability, vasodilatation and haemorrhage.[4] Relative polycythemia can occur when the plasma volume is reduced due to intravascular volume depletion. This is the reason for relative polycythemia during acute pancreatitis, complicating as pseudocyst of pancreas in our case.

These can be corrected by appropriate replacement of intravascular fluids. Portal, splenic and mesenteric vein thrombosis can be observed frequently in Relative polycythemia patients.[5] There is no clear explanation for the cause of thrombosis. It is supposed that hyperviscosity may play a significant role.[6] Pseudocyst of pancreas occur in 2-10% patients with mild and in approximately 50% patients with severe acute pancreatitis.[7] In the EUS, the pseudocyst appears with lack of septations and mural nodules, however, internal debris is seen frequently. Pseudocyst can be aspirated under EUS guidance for differential diagnosis of mucinous cystic neoplasms.[8] Because of high bleeding risk, we did not perform a drainage procedure in our case. Primary significance of management of patient with relative polycythemia is to avoid complications like portal, hepatic and mesenteric vein thrombosis associated with this disease. The pseudocyst of pancreas was decreased in size during the follow-up of our patient. There was no other pancreatitis episode during the follow-up visits.

CONCLUSION

It is a case of relative polycythemia with pseudocyst of pancreas. As mentioned above, thrombotic episodes can be seen in patients with relative polycythemia patients. To our knowledge, there has been no previous case in the literature with clinical course of the patient suggested that the relative polycythemia developed subsequent to the clinical onset of acute pancreatitis complicating as pseudocyst of pancreas.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Bradley EL. A clinically based classification system for acute pancreatitis. Arch Surg. 1993;128:586.
2. Vitas GJ, Sarr MG. Selected management of pancreatic pseudocyst operative versus expectant management. Surgery. 1992;111:123.

3. Yeo CJ, Bastidas JA, Lynch NA. The natural history of pancreatic pseudocysts. Surg Gynecol Obstet. 1990;170:411.
4. Baron T, Morgan D. Acute necrotizing pancreatitis. N Engl J Med. 1999;340:1412-7.
5. Valla D, Benhamou JP. Obstruction of the hepatic Veins or suprahepatic inferior vena cava. Dig Dis. 1996;14:99-118.
6. Randi ML, Rossi C, Tison T. Portal thrombosis and myeloproliferative diseases. Int Congress Phlebolymphology. 1991;21-23.
7. Wilson C. Management of the later complications of severe acute pancreatitis pseudocyst, abscess and fistula. Eur J Gastroenterol Hepatol. 1997;9:117-21.
8. Fockens P, Johnson TG, Van HM. Endosonographic imaging of pancreatic pseudocysts before endoscopic transmural drainage. Gastrintest Endosc. 1997;46:412-6.

Cite this article as: Shruthi KV, Sattar R, Kumar D. An unusual case of relative polycythemia with complication of pseudocyst of pancreas. Int Surg J 2017;4:816-8.