

# EMPHYSEMATOUS PANCREATITIS- A RADIOLOGICAL CURIOSITY: BETTER OUTCOME WITH EARLY AGGRESSIVE TREATMENT

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## ABSTRACT

Emphysematous pancreatitis is a rare variant of severe acute pancreatitis with gas in the pancreatic bed. It is diagnosed on clinical grounds and on the basis of the radiologic finding of gas in the retroperitoneum. This implies infected pancreatic necrosis which calls for intensive care and surgical intervention. We report the case of a 60-year-old male with a history of diabetes mellitus, vomiting and epigastric pain. The findings on CT suggested a diagnosis of emphysematous pancreatitis. Hence, vigorous fluid resuscitation and intravenous antibiotics were started immediately. The patient recovered successfully.

**Key words:** Emphysematous pancreatitis; Outcome; Imaging

## Background

Emphysematous pancreatitis is a rare and potentially lethal condition. Debilitated and immunocompromised patients with conditions like diabetes are most commonly affected by this condition. It is a sequel of acute pancreatitis whose reported mortality is 4% which climbs up to 50% when it is complicated to abscess formation and superinfection by gas forming bacteria. Although the prognosis is poor but early aggressive surgical management and systemic antibiotic therapy is necessary to control further complications.

## Case Presentation

A 60 year old Pakistani male presented in emergency department with complain of generalized abdominal pain for 5 days. Pain was more severe in the epigastric region and was radiating to the back. During last 5 days, patient also had multiple episodes of bilious

vomiting. Our patient is known hypertensive, diabetic and also suffering from obstructive sleep apnea. He has no history of alcohol drinking. He was also denying any history of recent surgical procedure. On physical examination, his vitals were normal but he was severely tender in the epigastric region. Blood examination revealed random blood sugar of 296 mg/dl, serum creatinine of 2.4 mg/dl. WBC counts were  $14.1 \times 10^9/L$  and C-reactive protein of 24 mg/dl, strongly suggesting the underlying infection. Amylase and lipase levels were normal and direct and indirect bilirubin were slightly raised with grossly deranged LDH levels.

## Imaging

Chest x-ray showed basilar atelectasis in both lung fields which was likely secondary to severe pain in epigastrium that patient was suffering. No abdominal

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radiography was performed and clinician jumped to contrast enhanced CT of abdomen and pelvis which revealed detrimental findings. There was no enhancement in the body of pancreas, however tail and head was normally blushing. Significant peripancreatic inflammatory changes were identified around the body of pancreas along with multiple specks of gas (Fig.1). Rests of the abdominal and pelvic viscera were normal and there was no sign of small or large bowel perforation. On the basis of imaging diagnosis of emphysematous pancreatitis was made.



**Figure 1:** Contrast enhanced CT axial section demonstrates multiple specks of gas in the pancreatic region with significant peripancreatic inflammatory changes. Findings are compatible with emphysematous pancreatitis.



**Figure 2:** Contrast enhanced CT of the same patient after 5 months exhibits significant improvement in the peripancreatic changes with some residual changes. Drainage catheter is in place with its tip near the tail of pancreas.

## Treatment

Immediately after CT examination, pigtail catheter was placed in the peripancreatic collection for drainage and pus was sent for culture which showed the growth of E.coli bacteria. For E.coli, imipenem was given to patient. Initially catheter drained minimal pus which was very thick but after regular flushing with normal saline its consistency decreased and pus became easily drainable. Endocrinologists were taken on board who control the diabetes with the help of insulin. With this aggressive treatment, patient remained stable during course of treatment and his inflammatory parameters were improved. On 8<sup>th</sup> day of admission, patient was discharged with drain and antibiotics which he used further 7 days. After 2 weeks patient remain well and did not have any fever spike.

## Discussion

Emphysematous pancreatitis is rare form of necrotizing pancreatitis which is caused by coliform bacteria that are gram negative in type.<sup>1</sup> The organisms which result in this condition may reach the pancreas by hematogenous or lymphatic route, through a fistula from adjacent bowel, or they can enter into the pancreatic duct by using wide open ampulla of Vater.<sup>2</sup> Mottle lucencies in the epigastric region are danger sign that raises the possibility of emphysematous pancreatitis; however, It is best diagnosed on CT when there are changes of acute pancreatitis with superadded formation of gas within the pancreatic parenchyma or in the peripancreatic region. CT is also helpful in determining the extent and severity and pancreatitis with involvement of surrounding structures.

The prognosis for emphysematous pancreatitis really bad with mortality and morbidity rates reaching up to 40% and 100%. Emphysematous pancreatitis is a sign of surgical intervention, however, according to recent reports, with early radiological diagnosis sometimes percutaneous drainage of peripancreatic collection with systemic antibiotics may suffice. if there is no clinical response seen with these measures then next step should be surgical debridement.

In our case radiological diagnosis of emphysematous

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pancreatitis was made early and with prompt percutaneous drainage, aggressive systemic antibiotics and regular IV fluids made patient recover miraculously early.

## References

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