

## Successful Therapy in A 20 Years Old Male with Acute Pancreatitis

Asri Nugraheni\*, Supriono\*\*

\*Faculty of Medicine, University of Brawijaya/Dr. Saiful Anwar General Hospital, Malang

\*\*Division of Gastroentero-hepatology, Department of Internal Medicine, Faculty of Medicine, University of Brawijaya, Dr. Saiful Anwar General Hospital, Malang

### Corresponding author:

Supriono. Department of Internal Medicine, Faculty of Medicine, Dr. Saiful Anwar General Hospital. Jl. Jaksa Agung Suprpto No. 2 Malang Indonesia. Phone: +62-341-348265. E-mail:sprint.mlg@gmail.com

### ABSTRACT

Acute pancreatitis is an inflammation at pancreas that can be caused by biliary tract disease, alcohol and metabolic disorder. We presented a 20 years old male with acute pancreatitis, he was obese and had history of alcohol abuse came with severe abdominal pain. There is increasing amylase and lipase level, and his abdominal CT scan showed infiltrate peripancreatic, mesenteric, and left anterior pararenal space, hepatomegaly and mild ascites. Patient was given supportive treatment such as parenteral nutrition, analgetic, PPI, and also octreotide. With proper diagnosis and optimal treatment, patient was successfully treated without any complication.

**Keywords:** alcohol, amylase, lipase, obesity, acute pancreatitis

### ABSTRAK

Pankreatitis akut merupakan peradangan pankreas yang disebabkan karena adanya penyakit traktus bilier, alkohol dan kelainan metabolik. Kami laporkan kasus pankreatitis akut pada laki-laki usia 20 tahun dengan obesitas dan riwayat peminum alkohol yang mengalami keluhan nyeri perut hebat. Pemeriksaan enzim amylase dan lipase menunjukkan adanya peningkatan, dari CT scan abdomen menunjukkan infiltrat peripankreatik, mesenterik, dan anterior pararenal space kiri, hepatomegali dan asites minimal. Pasien mendapatkan terapi suportif seperti nutrisi parenteral, analgetik, PPI dan diberikan octreotide. Dengan penegakan diagnosis yang tepat, serta perawatan yang optimal sehingga pasien berhasil ditangani dengan baik dan tidak ditemukan adanya komplikasi.

**Kata kunci:** alkohol, amylase, lipase, obesitas, pankreatitis akut

### INTRODUCTION

Acute pancreatitis is an inflammation at pancreas that occurred suddenly, can be mild to fatal. Acute pancreatitis is an inflammation of the pancreas that occurs suddenly, can be mild to fatal. Acute pancreatitis often becomes a life-threatening gastroenterology disease. Thereby assessing the severity of cases of acute pancreatitis is necessary, so that its management

can be rapidly administered and it will affect the prognosis.<sup>1,2</sup>

The etiology of acute pancreatitis varies, although the most common cause is biliary tract disease and alcohol use, it can also be caused by drug use, genetic mutations, trauma, and viral infections; and also associated with metabolic abnormalities and connective tissue diseases.<sup>1,2</sup>

In the United States it is estimated that the incidence of acute pancreatitis ranges from 5 to 35 per 100,000 new cases per year, with a mortality rate of 3%. Acute pancreatitis is commonly found in men with age about 40 years old.<sup>2</sup> In the following, we presented case report of a 20 years old male with acute pancreatitis, which diagnosed promptly and appropriately, then being given optimal therapeutic management therefore achieve therapeutic success.

### CASE ILLUSTRATION

A 20-year-old man came with a complaint of mid-abdominal pain which felt like kneading for 2 days. Abdominal pain is felt unto the back and persistent with cold sweat. Patients also had fainted because he felt severe abdominal pain. Abdominal pain increases when given food. Patients also feel nausea without vomiting.

Patients had previously complained about the same thing about a week before. Patients complained of abdominal pain penetrating to the back, which cause the patient to be admitted for one day in a private hospital and given therapy, but at that time, the patient decided to go home forcibly.

Patients are a student in a cooking school in Surabaya. The patient eats three times a day and according to his sister, the amount of food he eaten in dinner is quite large. In the patient's family, his mother also looks fat. The patient said he had been drinking alcohol about 2 years ago, which he said to have tried several times.

From the physical examination, it was found that GCS 4/5, blood pressure 150/90 mmHg, pulse 88 times/minute, respiratory rate 18 times/minute, temperature 36°C, visual analog score 7/10. The patient looked fat, with weigh 120 kg, height 180 cm, and therefore body mass index 37 kg/m<sup>2</sup>. From abdominal examination, we found striae/stretch mark. At auscultation, normal bowel sound was found. At palpation, there is little resistance in the upper middle abdomen region.

From laboratory tests, it was found Hb 15.8 g/dL, leucocytes 13,500/ $\mu$ L, platelets 280,000/ $\mu$ L, ureum 23 mg/dL, creatinine 0.9 mg/dL, 137.6 mmol/L, potassium 3.52 mmol/L, chloride 104.5 mmol/L, calcium 8.83 mg/dL, random blood glucose (RBS) 92 mg/dL. From anamnesis and physical examination, it was concluded that patient have abdominal pain with suspicion of acute pancreatitis, which continued with amylase, lipase and abdominal ultrasound examination, with result of amylase 491 U/L, and lipase 490 U/L.



Figure 1. Striae/stretch mark appearance on the abdomen



Figure 2. Abdominal ultrasonography (USG) showed ascites and meteorismus

From abdominal ultrasound examination, it was found only the appearance of ascites. In order to help establish the diagnosis of acute pancreatitis, abdominal CT scan was planned.



Figure 3. Abdominal CT scan showed acute pancreatitis with peripancreatic, mesenteric, and anterior pararenal space infiltrate, hepatomegaly and minimal ascites.

At the beginning of treatment, the patient was given a liquid diet. The initial therapy given was metamizole 3x250mg iv, lansoprazole 1x30 mg iv, and sucralfate 3xCI. During treatment, the patient was having trouble sleeping, then he was given alprazolam 1x0.5 mg. On the fourth day of treatment, the patient experiences abdominal pain after a liquid diet, then the patient was temporarily being fasted and given parenteral nutrition. Because of the results of anamnesis and physical examination which lead to acute pancreatitis and there was an increase in amylase and lipase, octreotide 2x50 mg sc was added to the treatment. In order to reduce severe pain which emerged at the time of treatment, fentanyl patch 12.5 mg was given. On the fifth day of treatment, the pain was reduced, then it was tried to give liquid diet to the patient. Up to the seventh day of treatment, the complaint was gradually improved and then the patient was discharged with lansoprazole 1x30 mg and tramadol/paracetamol 37.5 / 325 mg 3x1.

After the patient was discharged, the patient had several times complained of heartburn, but the pain felt not as severe as when the patient was in hospital. The successful development of therapy was monitored by CT scan reevaluation on July 27<sup>th</sup> 2015.



Figure 4. Abdominal CT scan on July 27th 2015, Conclusion: process of acute pancreatitis was reduced than in the previous CT scan.

## DISCUSSION

There are many etiologies of acute pancreatitis, but the mechanisms which cause inflammation in the pancreas are still not known with certainty. In this case, the patient with an overweight condition with BMI of 37 kg/m<sup>2</sup> at first when he was treated. This patient also have history of consuming alcohol. Both of the aforementioned conditions are risk factors for the occurrence of acute pancreatitis.

The presence of severe abdominal pain should make us to think of the possibility of acute pancreatitis. The diagnosis of acute pancreatitis can be established by 2

of 3 criteria: (1) typical abdominal pain in the epigastric region radiating to the back, (2) increased serum lipase and/or amylase 3 times or more; (3) finding of acute pancreatitis confirmation from cross-sectional abdominal radiological examination.<sup>2</sup> In this patients, the criteria for the diagnosis of acute pancreatitis was met.

Local complications which can be occurred, among others are necrotic pancreas, abscess pancreas, and pseudocyst pancreas. Systemic complications which can be occurred is organ failure, which characterized by shock, pulmonary insufficiency, and gastrointestinal hemorrhage.<sup>2</sup>

Abdominal pain is the main symptom of acute pancreatitis. Pain can be felt varies from discomfort, mild pain to severe pain. Characteristics of pain usually felt in the area of epigastrium and periumbilical region, and can spread to the back, chest, flank, and lower abdomen. Nausea, vomiting, and abdominal enlargement due to gastric and intestinal hypomotility as well as chemically peritonitis are also frequently complained by patients. In this patient, abdominal pain was found spread to the back.

Bowel sounds are usually normal, but in 20% the person may diminished to disappeared. In very severe cases, there is skin discoloration which can become pale, bluish, or brownish yellow. This may be found in the umbilicus region, which known as the Cullen's sign, or in the waist region, which called Turner's sign.<sup>1</sup>

Serum amylase and lipase are widely used as screening tests for acute pancreatitis in patients with acute abdominal pain. If the value is more than three times the upper normal limit, and epigastric pain was found, then pancreatitis was suspected. In acute pancreatitis, serum amylase and lipase usually increase within 24 hours of onset and persist within 3-7 days. It will return to normal level within 7 days unless pancreatic ductal damage, ductal obstruction, and pseudocyst formation were found. Approximately 85% of patients with acute pancreatitis have serum lipase and amylase three times or more higher than the normal value.<sup>2</sup>

Ultrasound examination (USG) is a safe, noninvasive way of checking that can be done at any time. In the event of an emergency ultrasound examination can be done, even much help make the diagnosis. The image obtained varies depending on the weight and stage of the disease and may change significantly over a period of several hours. The affected pancreas may be edema, necrotic, or haemorrhagic. Edema will cause the affected segment to expand and there will be reduction in echogenesity due to the increasing fluid in the parenchyma.<sup>3</sup>

In severe acute pancreatitis, the image shown by ultrasound is not very specific, since ultrasound is quite difficult to assess necrotic areas. Nevertheless, the increasing heterogeneous echogenicity in the enlarged pancreas should be suspected as a necrosis process, in addition to the collection of intrapancreatic or peripancreatic fluid which is a complication of severe acute pancreatitis.<sup>4</sup>

CT scan is best evaluated in 3-5 days when the patient is admitted to the hospital when the patient does not respond to supportive therapy in order to find out local complications such as necrosis. CT scan to date is a gold standard for the diagnosis of acute pancreatitis. CT scan is better able to determine the severity of pancreatitis through CT severity index (CTSI). The image of acute pancreatitis with CT scan will show a diffuse or localized pancreatic enlargement and in that area, there is a decrease in density. Haemorrhage, necrotic or secondary infection can be seen from an increase in heterogeneous density with fluid collection around the pancreas. In severe acute pancreatitis, an image of clear borderline area/zone that does not suffer from stinging contrast suggests a necrosis region. When it comes to a state where almost 90% of the pancreas region is necrotic it is called that the pancreas has complete necrosis or central cavity necrosis. In this patients, an abdominal CT scan was obtained with the conclusion of acute pancreatitis with peripancreatic, mesenteric, and anterior pararenal space sinistra infiltrate, minimal hepatomegaly and ascites.<sup>2,5</sup>

Many studies stated that an earlier oral diet administration in patients with acute pancreatitis correlates with shorter hospitalization times, decreasing infectious complications, and decreasing mortality. In acute pancreatitis, oral intake should be administered more rapidly. Although the time to start oral feeding is still controversial, recent research has shown that by giving oral feeding as soon as possible decreases the occurrence of complications. However, as the time goes by, pain management in acute pancreatitis may be equated with a modified WHO ladder. Under the WHO regimen, pain therapy begins with a low-potency non-steroidal anti-inflammatory drug, which may be useful in mild or moderate pancreatitis, and increased step by step up to a potent single NSAID or combination with opioids. In the past, WHO analgesic ladder was only used partially for therapy in patients with acute pancreatitis, because opioid analgesics, especially morphine, can cause Oddi sphincter dysfunction after systemic administration. However, from several studies show that morphine does not affect the dysfunction.

Opioid analgesics are an appropriate choice as an anti-pain in acute pancreatitis, those drug also helps reduce the need for other analgesics companion.<sup>6,7</sup>

Octreotide, a synthetic compound which naturally produced by somatostatin peptide hormone, has been often tried as a therapy for acute pancreatitis. Octreotide is a potent inhibitor of the secretion of the pancreatic exocrine gland, which can reduce or suppress the pancreatic response to food. Octreotide also has a cytoprotective effect, which reduce toxin effects on gastric mucosal cells, hepatocytes, and pancreatic cells in mice. Octreotide relaxes the Oddi sphincter, causing the flow of pancreatic secretion into the duodenum.<sup>8</sup>

In this patient, acute pancreatitis can be rapidly diagnosed and appropriate management of therapy so that the patient improves and no complications are found.

## REFERENCES

1. Rabow, MW. In: Papadakis MA, McPhee SJ, eds. Current Medical Diagnosis and Treatment 2013. 52<sup>nd</sup> ed. New York: McGraw-Hill 2013.p.686-92.
2. Longo, fauci, Kasper, Hauser, Jameson, Loscalzo. Harrison's Principles of Internal Medicine 18<sup>th</sup> ed. New York: McGraw-Hill. 2012 p.2592-97.
3. Eisenberg RL. Disease of the pancreas. In: Eisenberg RL, eds. Diagnostic in internal medicine. 1<sup>st</sup> ed. New York: McGraw-Hill 1985.p.747-60.
4. Goyal H, Singer MV. Acute pancreatitis. In: Berger HG, Buchler H, eds. Standard of conservative treatment acute pancreatitis. 1987.p.260-65.
5. Sutton D. Textbook of Radiology and Imaging vol ke-2. 6<sup>th</sup> ed. Churchill Livingstone, 1998;1029-60.
6. Stevens M, Esler R, Asher G. Transdermal fentanyl for the management of acute pancreatitis pain. Appl Nurs Res 2002;15:102-10.
7. Thompson DR. Narcotic analgesic effects on the sphincter of Oddi: a review of the data and therapeutic implications in treating pancreatitis. Am J Gastroenterol 2001;96:1266-72.
8. Anthony LB. Long-acting formulations of somatostatin analogues. Ital J Gastroenterol Hepatol 1999;31:S216-S218.
9. Banks PA, Freeman ML. Practice guidelines in acute pancreatitis. Am J Gastroenterol 2006;101:2379-400.
10. Windsor AC, Kanwar S, Li AG, Barnes E, Guthrie JA, Spark JI, et al. Compared with parenteral nutrition, enteral feeding attenuates the acute phase response and improves disease severity in acute pancreatitis. Gut 1998;42:431-5.