



A Case Report on Acute Necrotizing Pancreatitis and Nursing Management

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

Introduction: Necrotizing pancreatitis (NP) is a health problem in which part of pancreas dies. This is because of inflammation or injury. If the dead tissue gets infected, it can cause serious issues. Pancreatitis is inflammation of the pancreas. During recurring attacks of pancreatitis, tissues within pancreas may die and later become infected. This condition is called as acute necrotizing pancreatitis.

Case Presentation: A 48 yr old male visited in AVBRH with the chief complaints of pain in epigastric region, recurrent vomiting, and abdominal distention since 7 days. Otherwise client was alright. After undergoing investigations such as complete blood count, liver function test, kidney function test, CT Scan (Computed tomography) and sonography etc. He was diagnosed with Acute Necrotizing Pancreatitis and was admitted to male medicine ward No.29. He had past medical history of pain in epigastric region, fever, abdominal distention, since 5days. For these complaints his family members referred him in "Get Life Hospital" at Amravati. He was treated with antibiotics, analgesic, After CT scan, Sonography it was found that there was Acute pancreatitis. That's why his family members admitted him at A.V.B.R Hospital for further treatment.

Conclusion: These results support nonsurgical management, including early antibiotic treatment, in patients with sterile pancreatic necrosis. Patients respond well to treatment.

Keywords: Acute necrotizing pancreatitis; treatment; abdominal distension.

1. INTRODUCTION

Necrotizing pancreatitis (NP) is a health problem in which part of pancreas dies. This is because of inflammation or injury. If the dead tissue gets infected, it can cause serious issues. The pancreas is an organ that sits behind stomach. It makes fluids that flow through a duct into the small intestine. These fluids help you digest food. The pancreas also releases hormones to help control blood sugar. This includes insulin. Pancreatitis is inflammation of the pancreas. When the pancreas gets inflamed, it may leak digestive enzymes into the pancreas itself. This harms the pancreas. This can lead to pancreatitis. When this damage is severe, parts of your pancreas may not receive enough blood and oxygen to survive. NP happens when a part of the pancreas or the tissue around it dies from inflammation. The dead part of pancreas may be separate from the healthy part. Or it might stay with the nearby tissue. The dead tissue may not contain germs, or it may get infected. These factors affect your symptoms and treatment. Some people with pancreatitis get NP. Pancreatitis is a fairly common condition. It's been on the rise lately. It's more common in men than in women. It can affect people of all ages [1].

Causes of necrotizing pancreatitis pancreas gets inflamed or injured, and the pancreatic enzymes leak. This harms the tissues of the pancreas. If this damage cannot be reversed, it causes NP. In some cases, the nearby tissue may become infected. This is from bacteria that spread into this dead tissue. NP may start after an episode of sudden (acute) pancreatitis. People with chronic pancreatitis can also get NP. But this isn't as common. Having gallstones and drinking a lot of alcohol are the two most common causes of pancreatitis. Some other causes are: Trauma of the pancreas, Pancreatic tumour, High levels of calcium in your blood, Very high levels of blood fats (cholesterol), Damage to the pancreas from medicines, Autoimmune diseases, Conditions that run in your family that harm the pancreas, such as cystic fibrosis. Symptoms of necrotizing pancreatitis include: Gradual or sudden stomach pain. This sometimes goes around to your back. This pain is often severe and lasts for days. Fever, Swollen belly, Nausea and vomiting. NP may also cause dehydration and low blood pressure [2].

To diagnose pancreatitis, your health-care provider may do tests. These may include:

Imaging tests. These may include an abdominal ultrasound or CT scan. Biopsy take a sample from the part of your pancreas that has died. Using imaging tests, a healthcare provider uses a fine needle to take a small sample. This sample then goes to a lab. Necrotizing pancreatitis treatment often happens in 2 parts. Rest, IV (intravenous) fluids, Pain medicines, Medicines to prevent vomiting. Need nasogastric feedings. In nasogastric feeding, get nutrition in liquid form. Person will get it through a long, thin tube. This tube is put through nose and into stomach. It may also not be able to eat or drink anything for a while so that pancreas can rest. Sometimes the feeding tube is put through nose into the small intestine.

Healthcare provider may put a thin tube (catheter) through your abdomen to remove the dead tissue. This is done with the help of medical imaging. The area may be taken out endoscopically. This means it will be removed by going into the abnormal tissue of the pancreas through the stomach. That's because the risk of complications decreases when it's done later. But if person is very sick, they may need emergency treatment to remove the dead, infected part of pancreas [3].

2. CASE HISTORY

2.1 Patient Information

2.1.1 Present complaint

A 48 yr old male visited in AVBRH with the chief complaints of pain in epigastric region, recurrent vomiting, and abdominal distention since 7 days. Otherwise client was alright.

After undergoing investigations such as complete blood count, liver function test, kidney function test, CT scan (Computed tomography) and sonography etc. He was diagnosed with Acute Necrotizing Pancreatitis and was admitted to male medicine ward No.29.

2.2 Past Medical History of Illness

He had past medical history of pain in epigastric region, fever, abdominal distention, since 5 days. For these complaints his family members referred him in "Get Life Hospital" at Amravati. He was admitted in "Get Life Hospital" on 17/10/20 and Discharged on 20/10/20.

He was NBM for 3 days at “Get Life Hospital”, Amravati. They inserted nasogastric tube at “Get Life Hospital”. He was treated with antibiotics, analgesic, After CT scan, Sonography it was found that there was acute pancreatitis. That's why his family members referred him at A.V.B.R Hospital for further treatment.

2.2.1 Present surgical history

There is no significant history of surgery in present.

2.2.2 Past surgical history

There is no any significant history of surgery in Past.

2.2.3 Family history

A 48 yr old male, Belongs to Joint family. He lives with his mother, father, wife and sons. There is no family history of hypertension, diabetes mellitus etc.

2.3 Socioeconomic History

A 48 yr old male belongs to middle class family. He is Owner of vegetable shop. He earns 10,000/- month. They live in their own house made up of cement and brick. There is proper electricity and water supply in their house.

2.3.1 Personal history

Patient does not have any bad habit like smoking, chewing tobacco and drinking alcohol. His sleeping pattern is normal.

2.3.2 Psychosocial history

Patient maintains good interpersonal relationship with family, friends and relatives.

2.4 Physical Examination

2.4.1 General parameter

Height - 160 cm ,Weight - 50 kg , BMI - Weight in kg / height (meter)² = 19.5 kg/m², Temperature - 37.6 degree Celsius, Pulse - 80 beats/ min , Respiration - 20 breaths/ min, Blood pressure - 116/70 mmHg

2.4.2 Integumentary

No any skin lesions. Dry skin
Pulmonary/cardiovascular: Rapid pulse rate and sound. Respiration also normal and blood pressure is normal. Murmur sound is present.

2.4.3 Abdomen

Inspection - Abdominal distention seen, Palpation -Tenderness present, Auscultation – Hypoactive, Percussion - No fluid & gas collection

2.4.4 Musculoskeletal system

He was normal and body mass index (BMI). Slow range of motion (ROM). Muscle weakness is present and a reduction in muscle strength. No Periphery edema in lower extremities.

3. RADIOLOGY REPORT

1. Ultrasonography of abdomen shows acute necrotizing pancreatitis
2. Computerized tomography (CT) angiography shows shows Acute Necrotizing Pancreatitis Mild bilateral pleural effusion and mild free fluid in abdomen



Fig. 1. USG image

Table 1. List of Investigation

| Lymphocytes | 10% | 20-40% |
|-----------------------------------|-----------------------|---------------------------------|
| CALCIUM | 10.0md/dl | 8.5-10.5mg/dl |
| Lipid profile | | |
| Cholesterol | 127mg/dl | 125-200mg/dl |
| Triglycerides | 193 | 30-150mg/dl |
| LDL | 76mg/dl | 75-195mg/dl |
| VLD | 29 | 2-30mg/dl |
| RBS Glucose plasma random | 78mg/dl | 70-110mg/dl |
| Name of the investigation | Patient value | Normal value |
| Biochemistry | | |
| S. Amylase | 87IU/l | 40-80IU/l |
| Serum lipase | 71.57 IU/l | 7- 60 IU/l |
| Liver function Test (LFT) | | |
| Total bilirubin | 3.3 mg/dl | 0.4-1.2 mg/dl |
| SGOT | Total bilirubin | 5-40 unit/l |
| SGPT | SGOT | 7-56 unit/l |
| Total protein | 4.98 mg/dl | 6.0-8.3 gm/dl |
| Albumin | 2.70gm/dl | 3.2-5.0gm/dl |
| Globulin | 2.28gm/dl | 1.8-3.2gm/dl |
| KIDNEY FUNTION TEST (KFT) | | |
| Creatinine | 0.7mg/dl | Up to 1.4mg/dl |
| Sodium | 140meq/dl | 135-145meq/dl |
| Potassium | 5.2meq/l | 3.5 – 5.5 meq/l |
| Uric acid | 2.29mg/dl | 3.2-7.0mg/dl |
| Complete blood count (CBC) | | |
| WBC | 19800cells/microliter | 4,500to 11,000 cells/microliter |
| Hb% | 12.1g/dl | 13.5-15.5g/dl |
| MCHC | 33.5g/dl | 33.4-35.5g/dl |
| RBC | 3.11millioncells mcl | 4.32-5.72million cells mcl |
| Platelet | 2.43 lakh | 1.5 – 4.5 lakh |
| Monocytes | 03% | 3-8% |

4. PHARMACOLOGICAL MANAGEMENT

4.1 INJ. MEROPENEM 1GM, TDS INTRAVENOUS

Action: It is used to treat wide variety of bacterial infection. It works by stopping the growth of bacteria.

Uses: stomach infection, skin infection, lung infection, meningitis, urinary tract infection.

Adverse effect: nausea, vomiting headache, rashes, diarrhea, constipation

4.2 INJ. PANTOPRAZOLE 40 MG, OD INTRAVENOUS

Action: suppress gastric secretion by inhabitation the potassium ATPs enzyme system in gastric parietal cell, it block final step of acid production.

Uses: Gastro esophageal reflux diseases.
Adverse effect: Fatigue, malaise, weight changes

4.3 ING.EMSET 4 mg, TDS, and INTAVENOUS

Action: it block serotonin receptors in the vomiting center on nerves supplying the digestive system. It prevent nausea and vomiting.

Uses: nausea vomiting.

Adverse effect: head- ache, constipation, dizziness, fatigue.

4.4 SYP. DUPHALAC 15 ml, HS

Action: Prevent absorption of ammonia in colon by acidifying stool, increase water, softens stool.

Uses: constipation.

Adverse effect: nausea, vomiting, anorexia, abdominal cramps, diarrhea

4.5 INJ. TRAMADOL 100MG, TDS INTRAVENOUS

Action: Tramadol includes analgesic effects through Variety of different targets on the noradrenergic system and opioid receptor System. Uses: moderate and severe pain. Adverse Effect: constipation, nausea, vertigo, headache, drowsiness.

4.6 FLUID RESUSCITATION

For adequate nutrition and intravenous hydration. The hydration needed to resolve the hypovolemia that occurs to secondary to vomiting, reduce intake, third place extravasation .early hydration provides macro circulatory and microcirculatory support to prevent the complication. Ex. organ damage

5. SURGICAL MANAGEMENT

For acute necrotizing pancreatitis patients laparoscopic necrosectomy can conduct i.e. The removal of necrosis tissue by using laparoscope. Another surgery can percutaneous endoscopic necrosectomy i.e. using flexible endoscopy was pioneered as a technique which utilizes the existing percutaneous tract to facilitate retroperitoneal necrosectomy using instrument. Also endoscopic necrosectomy can perform in a cavity or confined space, when the procedure is complete the whole was created to provide access to cavity [4].

6. NURSING MANAGEMENT

Maintain bed rest. Provide quiet, restful environment. Decreases metabolic rate and GI stimulation and secretions, thereby reducing pancreatic activity. Promote position of comfort on one side with knees flexed, sitting up and leaning forward [5].

6.1 Nursing Diagnosis

6.1.1 Acute pain related to pancreatitis intervention

- Monitor the onset duration and type of pain
- Provide comfortable position to patient
- Give diversional therapy to the patient as per their choice

- Administer analgesic as per doctors order

6.1.2 Imbalance fluid and electrolyte related to vomiting Intervention

- Observe the client skin turgor and mucous membrane for signs of dehydration.
- Monitor volume and frequency of vomiting.
- Administer antiemetic medications as per doctor's order.
- Encourage for regular oral hygiene

6.1.3 Imbalance nutritional pattern less than body requirement related to anorexia Intervention

- As per patient diet pattern the food should provide to client
- Promoted the intake of liquid and semisolid food
- Diet should be given according like and dislike of patient
- Assess the nutritional pattern of the patient

6.1.4 Activity intolerance related to weakness Intervention

- Establish guidelines and goals of activity for the patient.
- Have the patient perform the activity more slowly, in a longer time with more rest or pauses, or with assistance if necessary.
- Gradually increase activity with active range of motion exercise in bed, increasing to sitting and the standing.
- Refrain from performing is an essential activities or procedures

7. PANCREATITIS RECOVERY DIET

- Advise the patient to avoid drinking alcohol
- Do not smoke
- Focus on eating a low-fat diet (whole grains, vegetables, fruits) that won't tax or inflame pancreas
- Encourage for drink more intake of fluid
- Keep an electrolyte beverage or a bottle of water with you at all times
- Advise patient to consult with dietician for healthy diet pattern
- Encourage patient to take high amount of vitamin (spinach, cereals, carrots, egg, pumpkin, peanuts, cauliflower, and cabbage) intake in his dietary pattern

- Advice patient to eat between six and eight small meals throughout the day to help recover from pancreatitis. This is easier on the digestive system than eating two or three large meals
- Avoid eating too much fiber at once, as this can slow digestion and result in less-than-ideal absorption of nutrients from food [6].

8. DISCUSSION

A 48 yr old male had pain in the epigastric region, recurrent vomiting, and abdominal distension from 7 days. He was admitted In A.V.B.R Hospital Sawangi on due to He had pain and he thought that it was due to casual region but later the pain was more severe. So, he came to AVBRH for further investigation. After undergoing investigations such as complete blood count, liver function test, kidney function test, CT scan (Computed tomography) and sonography. After all the investigation he was diagnosed with Acute Necrotizing Pancreatitis and was admitted to male medicine ward No.29. He had past medical history of pain in epigastric region, fever, abdominal distention, since 5days. He was treated with antibiotics, analgesic, antiemetic, antacid, fluid resuscitation. Pancreatitis ranges from mild acute attacks to pancreatic necrosis. Prompt diagnosis and appropriate treatment is necessary to achieve better outcomes for these patients. Rather than this he does not have any complaints like Diabetes, Asthma, and Tuberculosis etc. Now patient's condition is good, patient's pain is reduced at some level. For acute necrotizing pancreatitis surgical management can conduct i.e. laparoscopic necrosectomy which is the removal of necrosis tissue by using laparoscope. Also percutaneous endoscopic necrosectomy, endoscopic necrosectomy, open necrosectomy.

9. SUMMARY

A 48 yr old male was admitted in Acharya Vinobha Bhave rural hospital in Medicine ward the Chief complaint of pain in epigastria region, recurrent vomiting, and abdominal distention since 7 days. After all investigation he has diagnosed as acute Necrotizing Pancreatitis. Medication taken such as Inj. meropenem, Inj. Tramadol, inj. Emset, Inj. pan given to patient.

Acute necrotizing pancreatitis ranges from mild acute attacks to pancreatic necrosis. Prompt diagnosis and appropriate treatment is

necessary to achieve better outcomes for these patients.

10. CONCLUSION

In these case results support nonsurgical management, including early antibiotic treatment, patients with pancreatic necrosis. Patients with infected necrosis still represent a high-risk group in severe acute pancreatitis, and for them surgical treatment seems preferable. Prompt diagnosis and appropriate treatment is necessary to achieve better outcomes for these patients.

CONSENT

While preparing case report and for publication patient's informed consent has been taken.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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