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### Acute Pancreatitis

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# Acute Pancreatitis

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## Introduction

Acute pancreatitis (AP) can be a singular incidence, a relapsing process or exacerbations of chronic pancreatitis. AP is a rapidly developing inflammatory disorder of the pancreas and can affect other organ systems. The process begins when pancreatic enzymes are activated prematurely and leak into surrounding tissue. The digestive process begins before reaching the intestines.

AP is characterized clinically by abdominal pain and elevated levels of pancreatic enzymes in the blood. The pathogenesis is not fully understood however, a number of conditions are known to induce the disorder such as gallstones and chronic alcohol abuse (Schub & Kornusky, 2014)

## Topic Selection

The topic is selected to increase the nurses' knowledge on Pancreatitis. This is a prevalent illness seen in the acute stage in the emergency room. Acute Pancreatitis develops rapidly and can mimic Cardiac events. Pancreatitis is not as common in the pediatric population but is a growing problem with limited research and studies available. In completing this project, the nurse intends to expand her knowledge on Pancreatitis and its disease process.

## Pathophysiological Processes

### Signs & Symptoms

The most common clinical presentation of pancreatitis is pain localized to the upper-to-middle abdomen with possible radiation to the back. Acute Pancreatitis may be associated with nausea and vomiting and may be worse after eating (Conwell, 2012).

The pain may be constant for hours or days and may become worse when alcohol or food is consumed. Patients may bend forward into a fetal position to temporarily alleviate pain. Other sign and symptoms may include tachycardia, fever, swollen and tender abdomen and can progress to dehydration. These symptoms may mimic other medical conditions and a thorough medical exam and assessment should be completed to rule out other disease processes (Roberts, 2015).

### Clinical Signs

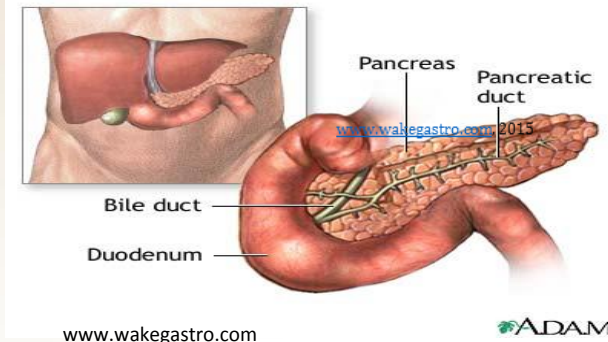
- Abdominal Pain
- Back or epigastric pain
- Flatulence
- Weight loss
- Anorexia
- Nausea
- Vomiting
- Constipation
- Elevation of amylase and lipase
- Gallstone-associated biliary obstruction
- Jaundice
- Low-grade fever
- Hypotension
- Tachycardia
- Decreased breath sounds with crackles (r/t irritation of pleura from pancreatic enzyme action)

Management of acute pancreatitis has optimal therapeutic outcomes with early recognition and proper treatment. A diagnosis is based on two of the following three criteria: 1) characteristic abdominal pain 2) elevated levels amylase/lipase 3) CT scan findings (Toskes,2010).

Table 4 Common Laboratory Tests To Diagnose Acute Pancreatitis <sup>1,19</sup>		
Supportive Test	Important Notes	
Amylase	Hyperamylasemia – often elevated more than 3 times the normal value in the presence of pancreatitis	
Lipase	Hyperlipasemia – remains elevated longer than amylase in the presence of pancreatitis and is more specific than amylase for pancreatitis	
White blood cell count	Leukocytosis – indicates infective manifestation	
Alanine aminotransferase	Elevation can be helpful in the diagnosis of biliary pancreatitis	
Hematocrit	Early rise may suggest pancreatic necrosis, although this is not always corroborated	
C-reactive protein	Elevation of this protein may suggest severe disease and has a high level of accuracy for predicting severe outcome	
Blood urea nitrogen	Elevation determines the risk for death from pancreatitis; however, it is not always specific for the disease	
Penny, 2012		

## Underlying Pathophysiology

The pancreas is found in the midline of the upper abdomen in the epigastric region, posterior to the stomach deep in the retroperitoneum. The pancreas serves as an exocrine and endocrine gland. The gland's exocrine function is performed by acinar cells and epithelial cells that line the ductal system. The acinar cells produces enzymes commonly referred to as pancreatic juices. These enzymes aide in the digestions of food in the duodenum.



## Significance of Pathophysiology

The chief mechanism in pancreatitis is auto digestion of the gland which results in destructions of pancreatic tissue. The causes of this process is inappropriate activated pancreatic digestive enzymes. Autodigestion is the result of pancreatic enzymes that leak from the gland and devastate the tissues in the area (Penny, 2012)

Amylase and lipase are enzymes produced by the pancreas and play a critical role in digesting food plus offer clinical information to assess pancreatic function. The rapid onset of pancreatic inflammation results in Acute Pancreatitis (AP), which can entail a wide range of diseases that vary from focal or diffuse pancreatic edema to severe necrosis of the gland (Penny, 2012)

Amylase and lipase levels that are elevated, along with the context of the duration of symptoms are considered for a diagnosis. Radiography studies are also ordered to rule out other etiologies for patient symptoms such as: ileus or bowel perforation (Andris, 2010)

## Implications for Nursing Care

Early diagnosis of AP is important to minimize disease process An important diagnostic tool is the patient assessment. Obtaining an accurate patient history can be helpful in assessing risk factors for Pancreatitis (Andris, 2010).

Laboratory test are an imperative diagnostic tool. Upon patient presentation the blood work ordered are a CBC, metabolic panel, amylase and lipase levels, lipid profile and hepatic function test, should be completed. A standard treatment plan for pancreatitis includes bowel rest and no oral intake. Oral intake has proven to increase abdominal pain, nausea and vomiting due to the associated pancreatic stimulation (Andris, 2010).

Health promotion and follow up education are needed to prevent recurrent episodes. Health education is a vital function of nursing care. Identifying the underlying cause of the disease can guide educational guidelines and lifestyle changes. Education on low-fat diet and exercise should be initiated based on patients ability (Andris,2010)

For patients with chronic pancreatitis it is suggested for the patient to consume small meals in attempt to decrease the secretion of pancreatic enzymes and fluids (Banks, 2010).

## Treatment Goals

Treatment goals include to limit the severity of Acute Pancreatitis and promote pancreatic function.

- \*Rest the pancreas
- \*Maintain NPO status
- \*NG to suction to resolve ileus and vomiting
- \*IV Fluids
- \*Monitor blood pressure, urine output
- \* Maintain Metabolic Assessment
- \*Frequent Respiratory assessment
- \*Monitor ABG's
- \*Monitor Lab Values
- \*Assess and alleviate pain
- \*Assess comfort status
- \*Monitor and treat complications

Educate the patient about the disease process of acute pancreatitis. Avoid common substances that cause flare ups. Discuss important points of continue medical observations until return to good health. Monitor for acute symptoms that may require immediate medical attention (Schub & Kornusky, 2014).

## Conclusion

Acute pancreatitis is an inflammatory condition of the pancreas that is clinically characterized by abdominal pain with elevated levels of pancreatic enzymes in the blood. The pathogenesis is not fully understood however, various other conditions are known to induce this disorder such as gallstones and chronic alcohol abuse accounting for the majority of cases in the United States (Schub & Kornusky, 2014)

## References

- Andris, A. (2010, April/June). Pancreatitis: Understanding the disease and implication for care. *AACN Advanced Critical Care*, 21(2), 195-204.
- Banks, P. A., Conwell, D. L., & Toskes, P. P. (2010, February). The management of acute and chronic pancreatitis. *Gastroenterology and Hepatology*, 6(2), 4-13.
- Conwell, D. L. (2010, February). Pancreatitis incidence and pathophysiology . *Gastroenterology & Hepatology*, 6(2), 4-8.
- Penny, S. M. (2012, July/August). Clinical sign of pancreatitis. *Radiologic Technology*, 83/6, 561-577.
- Schub, T., & Kornusky, J. (2014, August 1). Quick lesson: Pancreatitis, acute. *Cinahl Information Systems*.
- Roberts, G (2015, January). Pancreatitis. *Continuing Education Topics & Issues*. 4-10.
- Toskes, P. P. (2010, February). The management of acute and chronic pancreatitis. *Gastroenterology and Hepatology*, 6(2), 4-13.

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