

Difference Between Pancreatitis and Gallbladder Attack

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Key Difference – Pancreatitis vs Gallbladder Attack

[Pancreas](#) and [gallbladder](#) are two organs located adjacent to each other in the abdominal cavity. Because of the proximity in their positions, most of the clinical features arising due to the diseases of the respective organs are similar to each other. Pancreatitis, which is the [inflammation](#) of the pancreatic tissues, and gallbladder attacks, which are due to the inflammation of the gallbladder, are two good examples for this close similarity. Both of these conditions are characterized by an intense abdominal pain arising from the epigastric region of the abdomen. However, the key difference between pancreatitis and gallbladder attack is that, **in pancreatitis, the pancreas gets inflamed whereas in gallbladder attacks it is the gallbladder that is subjected to inflammatory changes.**

What is Pancreatitis?

The inflammation of the tissues in the pancreas is defined as pancreatitis. Depending on the duration of the symptoms, this condition is divided into two categories as [acute and chronic pancreatitis](#). Differentiating the two conditions from each other may be difficult since any cause of acute pancreatitis when not properly treated can give rise to the chronic disease.

Acute Pancreatitis

Acute pancreatitis is a syndrome of inflammation of the pancreas due to an acute injury.

Causes

- [Gallstones](#)
- Alcohol
- Infections such as mumps and Coxsackie B
- Pancreatic tumors
- Adverse effects of different drugs such as azathioprine
- [Hyperlipidemias](#)
- Various iatrogenic causes

- Idiopathic causes

Pathogenesis

Acute injury to the pancreatic tissues



Acute rise in the intracellular calcium level



Premature activation of trypsinogen into trypsin and impairment of the degradation of trypsin by chymotrypsin



Cellular [necrosis](#)

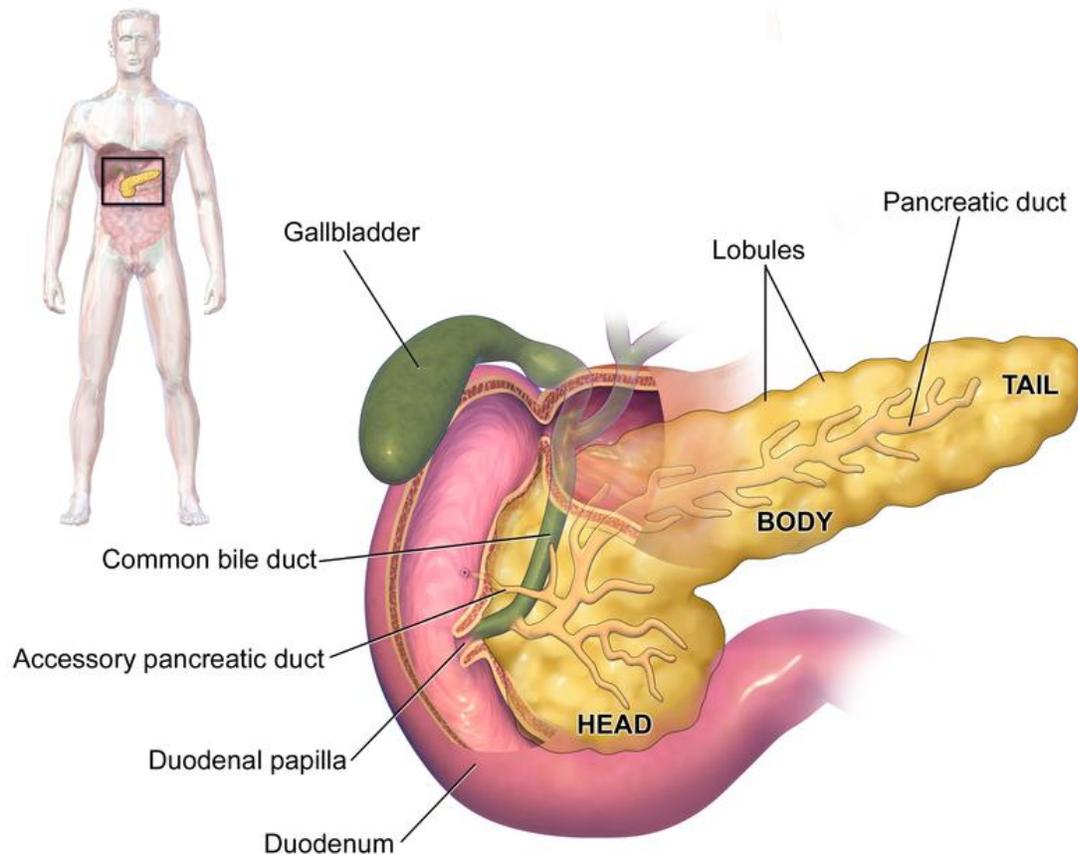


Figure 01: Pancreas

Clinical Features

- Initially, there is an upper abdominal pain originating in the epigastrium which is accompanied by nausea and vomiting. When the inflammation is not controlled it spreads to the other regions of the peritoneum. This aggravates the intensity of the pain and if retroperitoneum is involved there can also be an associated back pain.
- History of similar episodes of pain in the upper abdomen
- History of gallstones
- In the severe disease, the patient can have [tachycardia](#), [hypotension](#), and oliguria.
- During the examination of the abdomen, there can be tenderness with guarding.
- Periumbilical (Cullen's sign) and flank bruising (Grey Turner's sign)

Diagnosis

The clinical suspicion of acute pancreatitis is confirmed by the following investigations.

- Blood tests

In acute pancreatitis, the serum amylase level is elevated at least three times more than the normal level within 24 hours from the onset of the pain. But within 3-5 days from the attack, the amylase level drops back to the normal level. Therefore in a late presentation testing the serum amylase level is not recommended.

Serum lipase level is also abnormally increased

Baseline tests including FBC and serum electrolytes are also performed.

- A chest X-ray should be taken to exclude the possibility of a gastroduodenal perforation
- Abdominal USS
- Enhanced CT scan
- MRI

Complications of Acute Pancreatitis

- Multi-organ dysfunction
- Systemic inflammatory response syndrome
- Pancreatic abscesses, pseudocysts and necrosis
- Pleural effusion
- ARDS
- [Pneumonia](#)
- Acute kidney injury
- Gastric ulcers and duodenal ulcers
- Paralytic ileus
- [Jaundice](#)
- Portal vein thrombosis
- [Hypoglycemia](#) or [hyperglycemia](#)
- DIC

Management

There can be a large loss of fluids during the initial phase of the disease. Therefore it is important to have a well maintained intravenous access, central line and urinary catheter to monitor the circulating volume and renal functions.

Other procedures and steps followed during the management of acute pancreatitis are,

- Nasogastric suction to minimize the risk of aspiration pneumonia
- Baseline arterial blood gas to identify any hypoxic conditions
- Administration of prophylactic antibiotics
- Analgesics are sometimes required to alleviate the pain
- Oral feeding increases the chance of getting infections. Therefore in patients who do not have gastroparesis, nasogastric administration of food is employed whereas in those who are having gastroparesis post-pyloric feeding is instituted.

Chronic Pancreatitis

Chronic pancreatitis is the continuing inflammation of the pancreatic tissues resulting in irreversible damages.

Aetiology

- Alcohol
- Hereditary causes
- Trypsinogen and inhibitory protein defects
- Cystic fibrosis
- Idiopathic causes
- Trauma

Clinical Features

- Epigastric pain that radiates to the back. It can be either an episodic pain or a chronic unremitting pain
- Weight loss
- Anorexia
- There can be Malabsorption and sometimes diabetes

Treatment

The treatment of chronic pancreatitis varies according to the underlying pathology.

What is Gallbladder Attack?

The intermittent inflammation of the gallbladder giving rise to an intense pain is known as gallbladder attacks.

Causes

- Gallstones
- Tumors in the gallbladder or biliary tract
- Pancreatitis
- Ascending cholangitis
- Trauma
- Infections in the biliary tree

Clinical Features

- Intense epigastric pain which radiates to the right shoulder or the back in the tip of the scapula
- Nausea and vomiting
- Occasionally fever
- Abdominal bloating
- Steatorrhea
- Jaundice
- Pruritus

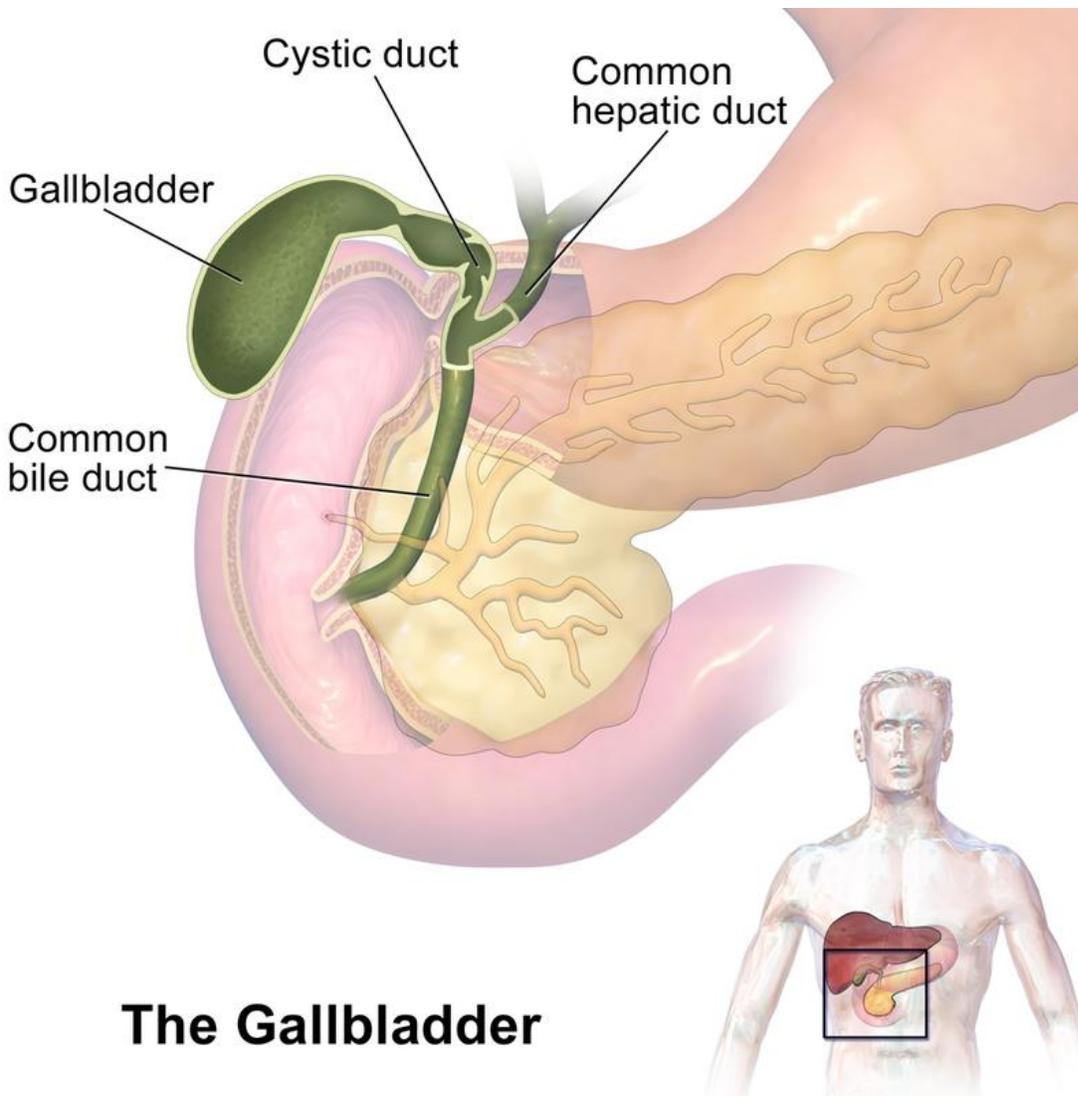


Figure 02: Gallbladder

Investigations

- Liver function tests
- Full blood count
- USS
- CT scan is also performed sometimes
- MRI

Management

As in chronic pancreatitis, the treatment of gallbladder attacks also varies according to the underlying cause of the disease.

Lifestyle changes such as getting rid of obesity can be helpful in reducing the risk of gallbladder diseases.

Controlling the pain and minimizing the patient's discomfort is the first part of the management. Strong analgesics like morphine may even be required in the most severe cases. Since the inflammation of the gallbladder is the pathological basis of the disease, anti-inflammatory drugs are given to control the inflammation. If the obstruction in the biliary tree is due to a tumor, surgical resection of it should be carried out.

Complications

- Peritonitis due to perforation and the leakage of pus
- Intestinal obstruction
- Malignant transformation

What are the Similarities Between Pancreatitis and Gallbladder Attack?

- Inflammation of the tissues is the basis of both diseases
- Epigastric abdominal pain is the prominent clinical feature of both diseases.

What is the Difference Between Pancreatitis and Gallbladder Attack?

Pancreatitis vs Gallbladder Attack

The inflammation of the tissues in the pancreas is defined as pancreatitis.

The intermittent inflammation of the gallbladder giving rise to an intense pain is known as gallbladder attacks.

Organ

Inflammation occurs in the pancreas.

Inflammation occurs in the gallbladder.

Causes

Causes of acute pancreatitis

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Alcohol
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Pancreatic tumors
Adverse effects of different drugs such as azathioprine
Hyperlipidemias
Various iatrogenic causes
Idiopathic causes

Causes of chronic pancreatitis

Alcohol
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Causes

Gallstones
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Pancreatitis
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Sections

Clinical features

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Clinical features chronic pancreatitis

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- Weight loss
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Management of acute pancreatitis includes,

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- Pleural effusion
- ARDS
- Pneumonia
- Acute kidney injury
- Gastric ulcers and duodenal ulcers
- Paralytic ileus
- Jaundice
- Portal vein thrombosis
- Hypoglycemia or hyperglycemia

Complications of gallbladder attacks are,

- Peritonitis due to perforation and the leakage of pus
- Intestinal obstruction
- Malignant transformation

Summary – Pancreatitis vs Gallbladder Attack

The inflammation of the pancreas is called pancreatitis and the inflammation of the gallbladder giving rise to an intense pain is called a gallbladder attack. This difference in the site of inflammation is the major difference between pancreatitis and gallbladder attack.

References:

1. Kumar, Parveen J., and Michael L. Clark. Kumar & Clark clinical medicine. Edinburgh: W.B. Saunders, 2009.

Image Courtesy:

1. “Blausen 0699 PancreasAnatomy2” By Blausen.com staff (2014). “Medical gallery of Blausen Medical 2014”. WikiJournal of Medicine 1 (2). DOI:10.15347/wjm/2014.010. ISSN 2002-4436. – Own work ([CC BY 3.0](#)) via [Commons Wikimedia](#)
2. “Gallbladder (organ)” By BruceBlaus – Own work ([CC BY-SA 4.0](#)) via [Commons Wikimedia](#)

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