CONDITION

Acute pancreatitis

Learn about acute pancreatitis, including symptoms, common causes, diagnosis, hospital treatment, possible complications, and follow-up care.

WHAT IT IS
Sudden inflammation of the pancreas

BODY SYSTEM
Digestive

MAIN SYMPTOMS
Upper abdominal pain, nausea, vomiting, swollen tender abdomen

WHAT CAUSES IT
Gallstones, heavy alcohol use, or other conditions

HOW IT IS DIAGNOSED
Lipase or amylase blood tests, pancreatic imaging

MAIN TREATMENT
Hospital supportive care and cause-specific treatment

CAN IT BE CURED?
Sometimes - mild cases improve within days

IS IT AN EMERGENCY?
Sometimes - pain with trouble breathing or fainting

LONG-TERM OUTLOOK
Mild cases often recover, but severe disease can damage organs

Overview

Acute pancreatitis is a sudden inflammation of the pancreas. The pancreas is an organ behind the stomach that makes digestive enzymes and hormones, including insulin. In pancreatitis, digestive enzymes become active too early and can injure the pancreas and nearby tissues.

Symptoms often begin quickly and may become severe. Most people need prompt medical assessment, and many are treated in a hospital. Mild cases often improve within several days with fluids, pain control, and nutrition. More serious inflammation can damage pancreatic tissue or affect the lungs, kidneys, circulation, and other organs.

Gallstones and heavy alcohol use are common causes, but pancreatitis can also result from high blood triglycerides, certain medicines, medical procedures, and other conditions. Sometimes no cause is found during the first evaluation.

Identifying the likely cause matters because targeted treatment may reduce the chance of another episode. Examples include removing the gallbladder when gallstones are responsible, avoiding alcohol, or treating very high triglyceride levels.

Symptoms

The main symptom is pain in the upper abdomen. It may start suddenly or build over several hours. The pain is often constant, may spread to the back, and can feel worse after eating or when lying flat. Some people feel more comfortable leaning forward.

Other possible symptoms include:

Symptoms can resemble those of gallbladder disease, a stomach ulcer, a heart problem, or other urgent conditions. Severe or persistent upper abdominal pain, especially with vomiting, fever, or jaundice, needs urgent medical assessment.

Call emergency services for abdominal pain accompanied by trouble breathing, fainting, confusion, blue or gray skin, marked weakness, or signs of shock such as cold, clammy skin. Do not drive yourself if you feel faint or seriously unwell.

- Nausea or repeated vomiting
- A swollen, tender, or painful abdomen
- Fever or chills
- A fast heartbeat
- Reduced appetite
- Weakness, sweating, or lightheadedness
- Yellowing of the skin or eyes if a gallstone is blocking a bile duct

Causes and risk factors

Gallstones are a leading cause of acute pancreatitis. These small, hardened deposits form in the gallbladder. A stone that passes into the common channel shared by the bile duct and pancreatic duct can temporarily block pancreatic drainage and trigger inflammation.

Alcohol can also injure the pancreas. Risk varies among individuals and is influenced by the amount and pattern of alcohol use, smoking, nutrition, genetics, and previous pancreatic injury. An episode may occur after long-term heavy use rather than after a single drink.

Other recognized causes include:

Smoking is associated with pancreatic disease and may increase the risk of pancreatitis, especially when combined with alcohol use. Previous acute pancreatitis also raises the chance of another episode if the underlying cause remains.

A clinician should review possible medicine-related causes. Do not stop a prescribed medicine on your own unless a healthcare professional tells you to do so. In some cases, pancreatitis is described as idiopathic, meaning that testing has not identified a cause. Additional imaging or specialist evaluation may later find one.

- Very high triglycerides, which are a type of fat in the blood
- High blood calcium, sometimes caused by an overactive parathyroid gland
- Certain prescription or nonprescription medicines
- Endoscopic retrograde cholangiopancreatography, or ERCP, a procedure used to examine and treat the bile and pancreatic ducts
- Abdominal injury or pancreatic surgery
- Autoimmune pancreatitis, in which the immune system attacks pancreatic tissue
- Some infections
- Inherited gene changes that affect the pancreas
- Structural problems in the pancreatic or bile ducts
- Pancreatic tumors, particularly when pancreatitis has no clear cause in an older adult

Diagnosis

Diagnosis begins with the symptoms, medical history, examination, and blood tests. Clinicians usually diagnose acute pancreatitis when at least two of the following are present:

Lipase and amylase are digestive enzymes released by the pancreas. Lipase is generally the more useful blood test. The height of the enzyme level does not reliably show how severe the illness will become.

Other blood tests can look for dehydration, inflammation, anemia, infection, liver or bile duct problems, kidney injury, abnormal calcium, and high triglycerides. Oxygen level, heart rate, blood pressure, urine output, and mental alertness help the team assess whether other organs are affected.

An abdominal ultrasound is commonly used to look for gallstones and widening of the bile ducts. A computed tomography, or CT, scan may not be necessary right away when the symptoms and blood tests clearly establish the diagnosis. Contrast-enhanced CT or magnetic

resonance imaging may be used when the diagnosis is uncertain, the person is not improving, or a complication is suspected.

Magnetic resonance cholangiopancreatography, known as MRCP, can show the bile and pancreatic ducts without placing an instrument into them. Endoscopic ultrasound uses a small ultrasound device passed through the mouth and may detect tiny stones or other causes missed by standard imaging.

The care team also estimates severity. Mild disease does not cause organ failure or local complications. More serious disease may cause temporary or persistent organ failure, fluid collections, or pancreatic tissue death.

- Abdominal pain typical of acute pancreatitis
- A lipase or amylase level at least three times the laboratory's upper limit of normal
- Imaging findings consistent with pancreatic inflammation

Treatment and management

Acute pancreatitis is usually treated in a hospital, although the length and intensity of care vary. Early treatment focuses on supporting the body while the inflammation settles and watching for complications.

Fluids are given through a vein to correct dehydration and support circulation. The team adjusts fluids according to blood pressure, urine output, laboratory results, heart and kidney health, and response to treatment. Excess fluid can also cause harm, so monitoring is important.

Pain and nausea are treated with appropriate medicines. Oxygen may be given if blood oxygen is low. People with severe illness may need care in a higher-monitoring or intensive care unit.

Food is no longer routinely withheld until all pain disappears. In mild pancreatitis, eating can usually restart as soon as it is tolerated, often with a low-fat solid or soft diet. If eating by mouth is not possible, liquid nutrition may be delivered through a tube into the stomach or small intestine. Feeding through the digestive tract is generally preferred over nutrition given only through a vein.

Antibiotics like amoxicillin or doxycycline do not treat pancreatic inflammation itself and are not routinely used to prevent infection in sterile pancreatic tissue. They may be needed when there is a confirmed or strongly suspected infection, such as infected pancreatic necrosis, pneumonia, or a bile duct infection.

Treatment of the cause may include:

Pancreatic necrosis means that part of the pancreas or surrounding tissue has died. Stable, sterile necrosis may be monitored without a procedure. If necrosis becomes infected or causes continuing symptoms, drainage or removal may be needed. When the person's condition allows, intervention is often delayed so the damaged area becomes better defined. Teams generally favor less invasive drainage or endoscopic methods before open surgery when appropriate.

- Gallstones: ERCP may be performed urgently when pancreatitis occurs with an infected bile duct, called cholangitis, or with evidence of continuing bile duct blockage. ERCP is not automatically required for every case of gallstone pancreatitis.
- Gallbladder removal: For mild gallstone pancreatitis, surgery to remove the gallbladder is often performed during the same hospital admission after the person has stabilized. This helps prevent another gallstone-related episode.
- Alcohol-related disease: The care plan may include support for stopping alcohol, treatment of withdrawal risk, nutrition support, and referral for counseling or addiction treatment.
- High triglycerides: Clinicians treat the immediate illness and make a longer-term plan to lower triglycerides and address related conditions such as diabetes.
- Medicine-related disease: A suspected medicine may be stopped or changed by the treating clinician when the benefits and risks have been reviewed.

Complications

Acute pancreatitis can cause fluid collections around the pancreas. Some disappear as inflammation improves. Others develop a defined wall and become pancreatic pseudocysts. A pseudocyst contains enzyme-rich fluid but little or no solid dead tissue. Treatment depends on symptoms, infection, bleeding, blockage, and changes over time rather than size alone.

Necrotizing pancreatitis occurs when pancreatic or nearby tissue dies. The tissue may remain sterile or become infected. Infection can cause fever, worsening pain, declining organ function, or failure to improve, although these findings may have other causes.

Severe inflammation can affect the whole body. Possible complications include breathing failure, kidney injury, low blood pressure, shock, blood-clotting problems, and failure of several organs. Bleeding or blockage of the stomach, intestines, or bile duct is less common but may require specialist treatment.

After severe or repeated episodes, some people develop chronic pancreatitis. Long-term pancreatic damage can reduce digestive enzyme production, leading to greasy stools, weight

loss, and poor absorption of nutrients. Damage to insulin-producing cells can contribute to diabetes. These outcomes are not inevitable, but they are reasons to attend follow-up appointments.

Follow up

Before discharge, ask what caused the episode, whether more testing is needed, and what steps may lower the chance of recurrence. Follow-up may involve a primary care clinician, gastroenterologist, surgeon, dietitian, diabetes specialist, or alcohol-treatment service.

Routine follow-up may include review of pain, appetite, weight, bowel movements, glucose, triglycerides, liver tests, and planned imaging. Take medicines only as directed. If a gallbladder procedure or further pancreatic imaging is recommended, confirm when and where it will occur.

Avoid alcohol until the treating team says it is safe; people with alcohol-related pancreatitis are generally advised to stop completely. Avoid smoking and ask for help quitting if needed. Follow any individualized nutrition plan, but restrictive diets or supplements are not a substitute for treating the cause.

After leaving the hospital, contact the treating team promptly for increasing pain, poor food or fluid intake, continued vomiting, fever, jaundice, worsening abdominal swelling, or unexplained weight loss. Seek emergency care for severe pain, trouble breathing, fainting, confusion, vomiting blood, black stools, or signs of shock.

Sources

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