CONDITION

Pancreatic pseudocyst

A pancreatic pseudocyst is a walled-off collection of pancreatic fluid, usually caused by pancreatitis or pancreatic injury.

WHAT IT IS
Encapsulated pancreatic fluid collection without a true cyst lining

BODY SYSTEM
Digestive system

MAIN SYMPTOMS
Upper abdominal pain, fullness, nausea, vomiting

WHAT CAUSES IT
Pancreatic duct leakage after pancreatitis or pancreatic injury

HOW IT IS DIAGNOSED
CT or MRI, sometimes endoscopic ultrasound

MAIN TREATMENT
Monitoring or drainage, plus treatment of the cause

CAN IT BE CURED?
Sometimes - resolves naturally or after drainage

IS IT AN EMERGENCY?
Sometimes - fainting, vomiting blood, or sudden severe pain

LONG-TERM OUTLOOK
Often resolves, but recurrence or complications can occur

Overview

A pancreatic pseudocyst is a collection of fluid that forms in or near the pancreas. The pancreas is an organ behind the stomach that makes digestive enzymes and hormones such as insulin.

A pseudocyst usually develops when inflammation or injury allows pancreatic fluid to leak from the pancreas or its ducts. A duct is a small tube that carries digestive fluid into the intestine. Over time, the leaked fluid may become enclosed by a wall of scar-like and inflammatory tissue.

"Pseudo" means false. Unlike a true cyst, a pseudocyst does not have a lining made from a layer of specialized cells. It mainly contains fluid rich in pancreatic enzymes. It may also contain a small amount of debris.

Most pseudocysts are related to acute or chronic pancreatitis. Acute pancreatitis is sudden inflammation of the pancreas. Chronic pancreatitis is long-lasting inflammation that can permanently damage the organ. A pseudocyst can also follow an abdominal injury or pancreatic surgery.

The wall usually takes several weeks to become well defined. Fluid collections seen earlier during acute pancreatitis may not yet be pseudocysts and may change as the inflammation settles.

Some pseudocysts cause no symptoms and disappear without treatment. Others press on nearby organs, become infected, bleed, rupture, or continue to enlarge. This is why follow-up is important even when immediate drainage is not needed.

Symptoms

A small pseudocyst may be found by chance during a scan for pancreatitis or another abdominal problem.

When symptoms occur, they may include:

Symptoms can come from the pseudocyst itself or from the pancreatitis that caused it. For example, chronic pancreatitis may also cause oily stools, diarrhea, weight loss, or problems controlling blood sugar.

A pseudocyst pressing on the stomach or the first part of the small intestine can make it difficult for food to pass. This may lead to repeated vomiting or trouble eating. Pressure on the bile duct can sometimes cause jaundice, which is yellowing of the skin or whites of the eyes.

Fever, chills, or a general feeling of being very unwell may suggest infection. Sudden severe pain, fainting, vomiting blood, or passing black stools may indicate bleeding or rupture and needs emergency assessment.

- Ongoing or recurring pain in the upper abdomen
- Pain that spreads to the back
- A sense of pressure, swelling, or fullness
- Feeling full after eating a small amount
- Nausea or vomiting
- Reduced appetite or unplanned weight loss

Causes and risk factors

Pancreatic pseudocysts most often develop after pancreatitis. Inflammation can damage small pancreatic ducts, allowing enzyme-rich fluid to escape and collect nearby.

Possible underlying causes include:

Not everyone with pancreatitis develops a pseudocyst. The chance of persistence may be greater when there is ongoing duct damage or chronic pancreatitis.

Alcohol can contribute to both acute and chronic pancreatitis. Smoking is also linked with chronic pancreatic disease. High blood triglycerides, certain medicines, high calcium levels, and some inherited conditions can cause pancreatitis in some people.

A fluid-filled growth in the pancreas is not always a pseudocyst. Some pancreatic cysts are growths that may need different monitoring or treatment. A history of pancreatitis makes a pseudocyst more likely, but imaging and clinical assessment are still needed.

- Acute pancreatitis, including pancreatitis related to gallstones or alcohol
- Chronic pancreatitis
- A blunt injury to the abdomen, such as from a collision or fall
- Damage or leakage following pancreatic surgery
- A narrowed, blocked, or disrupted pancreatic duct

Diagnosis

A pseudocyst is usually diagnosed with imaging. Your symptoms, history of pancreatitis or injury, and the appearance of the collection help distinguish it from other pancreatic conditions.

A contrast-enhanced CT scan can show the pseudocyst's location, size, wall, and relationship to nearby organs. It can also look for complications such as bleeding, blockage, or ongoing pancreatic inflammation.

MRI can provide more detail about the fluid and any solid material inside it. Magnetic resonance cholangiopancreatography, or MRCP, is a type of MRI that shows the pancreatic and bile ducts. It may help identify a leak, blockage, or disconnected duct.

Endoscopic ultrasound may be used when the diagnosis is uncertain or drainage is being considered. During this procedure, a flexible tube with an ultrasound device is passed through the mouth into the stomach or small intestine. It provides close images of the pseudocyst, nearby blood vessels, and pancreas.

Blood tests do not confirm a pseudocyst. They may check for inflammation, infection, anemia from bleeding, liver or bile duct problems, and the effects of pancreatitis.

If the collection contains a large amount of dead tissue, it may be a different type of collection called walled-off necrosis. If there is no clear history of pancreatitis, further assessment may be needed to rule out a pancreatic cystic growth.

Treatment and management

Treatment is based on symptoms, complications, changes over time, and the pseudocyst's anatomy. Size alone does not always mean that drainage is necessary.

An uncomplicated pseudocyst that causes few or no symptoms may be monitored. Follow-up may include symptom reviews and repeat imaging. The timing is chosen according to the cause, scan findings, and whether the collection is shrinking or changing.

Treatment also addresses the underlying pancreatitis. This may involve managing gallstones, avoiding alcohol when it has contributed to pancreatic injury, improving nutrition, or treating another identified cause. Chronic pancreatitis may require separate care for pain, digestion, and blood sugar.

Drainage may be considered when a pseudocyst:

Endoscopic drainage is often possible when the pseudocyst lies next to the stomach or small intestine. Using endoscopic ultrasound for guidance, a clinician creates a small connection between the pseudocyst and the digestive tract. One or more stents may be placed to let the fluid drain. Stents are short tubes that hold the drainage route open.

Some duct-related pseudocysts can be treated through the pancreatic duct during endoscopic retrograde cholangiopancreatography, or ERCP. This is useful only in selected situations.

Drainage through the skin may be appropriate in some cases. A radiologist places a tube into the collection using imaging for guidance. Surgery may be needed when endoscopic drainage is not suitable, complications are difficult to control, or the diagnosis remains uncertain.

Antibiotics like amoxicillin or doxycycline are used when infection is suspected or confirmed. They are not routinely needed for every uncomplicated pseudocyst.

- Causes persistent pain, vomiting, poor food intake, or weight loss
- Blocks the stomach, intestine, or bile duct
- Becomes infected
- Bleeds or is at risk from a nearby damaged blood vessel

- Continues to enlarge or does not settle
- Creates uncertainty about the diagnosis

Complications

Many pseudocysts settle without a serious problem, but possible complications include infection, bleeding, rupture, and blockage of nearby organs.

Pancreatic enzymes can damage a nearby artery and produce a weak, swollen area called a pseudoaneurysm. If this bleeds into the pseudocyst or digestive tract, it can cause sudden pain, weakness, fainting, vomiting blood, or black stools. Treatment may involve blocking the bleeding vessel through an image-guided procedure.

A pseudocyst can rupture into the abdomen. This may cause sudden severe pain and inflammation of the abdominal lining. It can also form an abnormal channel, called a fistula, into the chest, intestine, or another nearby structure.

Other complications include blockage of the stomach, small intestine, bile duct, or major veins. Infection can produce fever and worsening pain and may require antibiotics and drainage.

A pseudocyst can return after drainage, especially if an ongoing pancreatic duct leak or blockage remains.

Prevention

A pancreatic pseudocyst cannot always be prevented. It may develop even when pancreatitis is recognized and treated promptly.

Reducing the chance of further pancreatitis may lower the risk of another pseudocyst. The useful steps depend on what caused the pancreatic inflammation.

If alcohol contributed, avoiding alcohol can reduce further pancreatic injury. Stopping smoking is also important for people with chronic pancreatitis. Support is available if either change is difficult.

Gallstones, very high triglycerides, high calcium levels, and medicine-related pancreatitis need cause-specific management. Do not stop a prescribed medicine on your own; a clinician can assess whether it is likely to be involved and discuss alternatives.

Following the recommended care plan after abdominal injury, pancreatic surgery, or an episode of pancreatitis can help identify a fluid collection before it causes complications.

Living with it and what to expect

A newly formed pancreatic fluid collection may change during the first several weeks. Some collections are absorbed as the pancreas heals. Others develop a mature wall and persist as pseudocysts.

Pseudocysts following a single episode of acute pancreatitis may resolve over weeks or months. Those linked with chronic pancreatitis or a damaged pancreatic duct may be more likely to persist or return. No scan can promise exactly what an individual pseudocyst will do.

If monitoring is recommended, keep follow-up appointments even if you feel well. Repeat imaging can show whether the collection is shrinking, stable, or enlarging. Report new pain, vomiting, fever, jaundice, reduced food intake, or weight loss rather than waiting for the next routine visit.

There is no specific diet that makes a pseudocyst disappear. If fullness or nausea makes eating difficult, smaller meals may be easier to tolerate. Dietary advice may be useful if chronic pancreatitis has affected digestion or weight.

After successful drainage, symptoms often improve, but follow-up is still needed. Stents may require planned removal or replacement, and the pancreatic duct may need further assessment. Some people have no further problems. Others continue to need care for chronic pancreatitis or recurrent fluid collections.

When to get medical help

Seek emergency medical help for:

These symptoms can indicate bleeding, rupture, or another serious abdominal problem.

Arrange prompt medical assessment for fever, chills, worsening abdominal pain, repeated vomiting, jaundice, increasing abdominal swelling, or an inability to keep fluids down. These can be signs of infection or blockage.

For routine follow-up, report ongoing fullness, poor appetite, weight loss, or pain that is not improving. If a pseudocyst is being monitored, attend the planned reviews and scans even when symptoms are mild.

- Sudden, severe, or rapidly worsening abdominal pain
- Fainting, marked weakness, confusion, or cold and clammy skin
- Vomiting blood or material that looks like coffee grounds

- Black, tar-like stools
- Severe breathing difficulty
- Severe pain after a known pseudocyst suddenly changes

Common questions

Is a pancreatic pseudocyst cancer?

No. A pseudocyst is a fluid collection caused by pancreatic inflammation, injury, or duct leakage. It does not turn into cancer. However, some pancreatic cystic growths can look similar on a scan. Further testing may be needed when there is no clear history of pancreatitis or when the imaging appearance is unusual.

Does every pancreatic pseudocyst need to be drained?

No. A pseudocyst that is not causing symptoms or complications may be monitored while it resolves. Drainage is more likely to be considered for persistent symptoms, infection, bleeding, blockage, enlargement, or uncertainty about the diagnosis.

How long does a pancreatic pseudocyst take to go away?

Some resolve over several weeks or months, while others persist. The course is influenced by the cause, pancreatic duct damage, chronic pancreatitis, symptoms, and complications. Follow-up imaging is used to track what is happening.

Can a pancreatic pseudocyst burst?

It can rupture, but this is not the usual outcome. Sudden severe abdominal pain, fainting, weakness, vomiting blood, or black stools needs emergency assessment because rupture or bleeding may have occurred.

What can I eat with a pancreatic pseudocyst?

No particular food drains or cures a pseudocyst. Smaller meals may help if you feel full quickly or become nauseated. Your nutritional needs may be different if pancreatitis has affected digestion, weight, or blood sugar, so individualized dietary support may be useful.

Can a pseudocyst come back after drainage?

Yes. Recurrence is possible, especially if the pancreatic duct continues to leak or remains blocked. Follow-up may include imaging, stent management, and treatment of the underlying pancreatic condition.

Sources

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