CONDITION

Mesenteric venous thrombosis

Mesenteric venous thrombosis is a blood clot in veins that drain blood from the intestines.

WHAT IT IS
Blood clot in veins draining the intestines

BODY SYSTEM
Digestive and circulation

MAIN SYMPTOMS
Abdominal pain, nausea, vomiting, bloody stool

WHAT CAUSES IT
Clotting tendency, inflammation, cancer, surgery, or unknown

HOW IT IS DIAGNOSED
Contrast-enhanced CT of the abdominal veins

MAIN TREATMENT
Anticoagulants and treatment of bowel complications

CAN IT BE CURED?
Sometimes - clot clears; risks may remain

IS IT AN EMERGENCY?
Sometimes - severe or worsening abdominal pain

LONG-TERM OUTLOOK
Often good early; bowel damage worsens outcomes

Overview

Mesenteric venous thrombosis is a blood clot in one or more veins that carry blood away from the intestines. These are called the mesenteric veins. The superior mesenteric vein, which drains much of the small intestine and part of the large intestine, is most often involved.

The clot slows or blocks blood flow. Blood can then back up in the bowel wall, causing swelling and bleeding. In severe cases, the bowel does not receive enough oxygen and part of it may die. This is called bowel infarction.

The condition may be acute, meaning it develops quickly, or it may form more gradually over days or weeks. Chronic thrombosis may be discovered on a scan done for another reason. A clot can also extend into nearby veins, including the portal vein leading to the liver.

Early recognition matters because anticoagulant treatment can stop the clot from growing and

reduce the risk of bowel damage. Anticoagulants like warfarin or apixaban are medicines that reduce the blood's ability to clot. They are often called blood thinners, although they do not actually thin the blood.

Symptoms

Abdominal pain is the most common symptom. It may begin gradually and continue for several days before the condition is diagnosed. The pain may be constant, come in waves, or become steadily worse.

Other possible symptoms include:

Early in the condition, pain can be more severe than the findings on a physical examination would suggest. As bowel damage develops, the abdomen may become very tender, firm, or painful when touched or moved.

Symptoms are not specific to mesenteric venous thrombosis. Many more common digestive conditions can cause similar problems. A medical assessment and imaging are needed to find the cause.

Chronic thrombosis may cause few symptoms. In some people, it leads to increased pressure in veins around the digestive organs. This is known as portal hypertension. It can produce enlarged veins in the food pipe or stomach, an enlarged spleen, or bleeding into the digestive tract.

- Nausea or vomiting
- Diarrhea
- Abdominal swelling or tenderness
- Reduced appetite
- Blood in the stool
- Fever

Causes and risk factors

A mesenteric vein clot may form because blood flow has slowed, a vein has been injured or inflamed, or the blood has an increased tendency to clot. More than one factor may be involved.

Conditions in or near the abdomen that can raise the risk include:

Some people have a condition that makes their blood more likely to clot. These include antiphospholipid syndrome, certain inherited clotting differences, and myeloproliferative neoplasms, which are disorders in which the bone marrow makes abnormal numbers of blood cells.

Pregnancy, the period soon after giving birth, and medicines containing estrogen can also increase the chance of a blood clot. The risk is affected by other health factors and is not the same for everyone using estrogen.

Sometimes no clear cause is found. This is called unprovoked or idiopathic thrombosis. Even when the initial trigger is known, further testing may be appropriate if the result could affect treatment or family advice.

- Pancreatitis, which is inflammation of the pancreas
- Inflammatory bowel disease, including Crohn's disease and ulcerative colitis
- Abdominal infection or inflammation
- Cirrhosis or other causes of portal hypertension
- Abdominal surgery or injury
- Cancer, especially within the abdomen

Diagnosis

Mesenteric venous thrombosis is usually confirmed with a contrast-enhanced CT scan of the abdomen. Contrast is a substance given into a vein to make blood vessels and organs clearer on the images. The scan can show the clot, which veins are involved, and whether the bowel is swollen or damaged.

CT angiography may be used when mesenteric ischemia is suspected. Mesenteric ischemia means reduced blood supply to the intestines. The scan examines both the arteries bringing blood to the bowel and the veins carrying it away.

An MRI scan can sometimes provide similar information. Ultrasound may detect clots in larger abdominal veins, but bowel gas and the depth of the mesenteric veins can limit the view. It is not usually the main test when acute bowel damage is a concern.

Blood tests may check blood cell counts, kidney and liver function, signs of inflammation, and the blood's clotting system. A lactate test may help assess serious illness, but a normal lactate level does not rule out early bowel ischemia.

Once the immediate problem is stable, testing may look for an underlying cause. This may

include reviewing medicines and recent surgery, checking for abdominal inflammation or cancer, and testing selected people for clotting disorders. The choice and timing of these tests matter because an active clot and anticoagulant medicines can alter some results.

Treatment and management

Treatment depends on whether the bowel is still healthy, how extensive the clot is, and whether there is active bleeding or another condition affecting treatment.

Most people without signs of dead or perforated bowel are treated first with an anticoagulant. This prevents the clot from enlarging and gives the body time to break it down or form new channels around it. Treatment may begin with an injected or intravenous medicine and later change to an oral medicine.

Anticoagulation often continues for several months. Longer treatment may be considered when there is an ongoing clotting disorder, active cancer, a repeated clot, or no temporary cause. The decision balances the chance of another clot against the risk of bleeding.

Hospital care may also include fluids through a vein, pain relief, treatment for nausea, and temporary bowel rest. Antibiotics like amoxicillin or doxycycline may be used when infection, bowel injury, or perforation is suspected.

Surgery is needed if examination or imaging suggests dead bowel, a hole in the intestine, or inflammation of the abdominal lining called peritonitis. The surgeon removes bowel that cannot recover. Sometimes a second operation is used to reassess areas whose blood supply was uncertain.

Specialist procedures to remove or dissolve the clot may be considered in selected people whose condition worsens despite anticoagulation but who do not yet need emergency bowel surgery. These procedures carry bleeding and other risks, so they are not routine for everyone.

Follow-up includes monitoring for bleeding, checking that anticoagulant treatment is safe, and managing the condition that contributed to the clot. Repeat imaging may be used when it would change treatment, but it is not the only measure of recovery.

Complications

The most serious complication is bowel infarction. Damaged bowel can leak bacteria or develop a hole, leading to peritonitis, severe infection, or sepsis. These complications require urgent treatment.

Removing a large amount of damaged small intestine can cause short bowel syndrome. In this condition, the remaining bowel cannot absorb enough fluid or nutrients. Long-term nutrition support may be needed in severe cases.

Healing after bowel injury can produce a narrowed section called a stricture. This may later cause cramping, vomiting, swelling, or bowel obstruction.

A clot that remains in place can lead to chronic blockage and new small veins around the obstruction. These veins may become enlarged and bleed. Ongoing blockage can also contribute to portal hypertension.

Anticoagulants reduce dangerous clotting but increase the chance of bleeding. Warning signs include vomiting blood, black stools, heavy bleeding that does not stop, or sudden severe headache. A new mesenteric or other venous clot can also occur, especially if an underlying risk factor remains.

Prevention

Mesenteric venous thrombosis cannot always be prevented. Some clots occur without an identifiable trigger, and inherited or long-term clotting conditions cannot be removed.

When someone is in hospital or having major surgery, the healthcare team may use early movement, compression devices, or preventive anticoagulants based on that person's clotting and bleeding risks.

Managing inflammatory bowel disease, pancreatitis, cancer, and other contributing conditions may reduce some risk, although it cannot guarantee prevention. Avoiding dehydration during significant illness and following advice about movement after surgery may also be helpful.

If you have previously had a mesenteric or other venous clot, take anticoagulant medicine exactly as directed and do not stop it without medical advice. Before pregnancy or starting estrogen-containing medicine, discuss your clot history so the risks and alternatives can be reviewed.

Living with it and what to expect

Recovery differs according to how early the clot was found and whether the bowel was damaged. Many people treated before bowel infarction recover without surgery. Abdominal pain and digestive symptoms may improve over days, while energy and appetite can take longer to return.

The vein may reopen fully, reopen partly, or remain blocked while other veins develop to carry blood around it. A persistent clot on a later scan does not always mean that treatment has failed. Symptoms, bowel health, the cause of the clot, and the risk of another clot all affect long-term planning.

If surgery removed part of the intestine, recovery may take months. Some people have ongoing diarrhea, altered food tolerance, or difficulty absorbing nutrients. Dietetic support and blood tests can help identify nutrition problems.

Living with long-term anticoagulation usually means planning around bleeding risk. Tell dentists and other healthcare professionals that you take an anticoagulant. Check before using non-prescription medicines or supplements because some can increase bleeding or affect anticoagulant levels.

Routine follow-up may review symptoms, blood test results, medicine use, and the original risk factor. New or worsening abdominal symptoms should not wait for a routine appointment.

When to get medical help

Seek emergency care for:

If you already have mesenteric venous thrombosis, urgent reassessment is also needed when pain returns or becomes stronger during treatment. This can indicate worsening blockage, bowel injury, or another abdominal problem.

Contact your usual healthcare service promptly for smaller amounts of unusual bleeding, frequent bruising, ongoing diarrhea, reduced appetite, or medicine side effects. Questions about treatment length, test results, and stable long-term symptoms can usually be handled during routine follow-up.

- New severe or rapidly worsening abdominal pain
- A hard, very tender, or swollen abdomen
- Abdominal pain with fainting, confusion, or marked weakness
- Vomiting blood, passing a large amount of blood, or black tar-like stool
- Persistent vomiting with an inability to keep fluids down
- Chest pain, sudden breathlessness, or coughing up blood

Common questions

Is mesenteric venous thrombosis the same as mesenteric ischemia?

It is one cause of mesenteric ischemia, which means reduced blood supply to the bowel. Most acute mesenteric ischemia is related to an arterial problem. Venous thrombosis blocks blood leaving the bowel, causing congestion that can eventually reduce incoming blood flow.

Can the clot go away completely?

The body may dissolve some or all of the clot after anticoagulant treatment begins. In other cases, part of the vein remains blocked and new veins form around it. Complete reopening is not always required for symptoms to improve.

Will I need blood thinners for life?

Not everyone does. Treatment often lasts for months. Longer or indefinite treatment may be considered if there is a lasting clotting risk, active cancer, repeated thrombosis, or no temporary trigger. Bleeding risk and personal preferences are also part of the decision.

Can mesenteric venous thrombosis come back?

Yes, recurrence is possible. The chance is higher when an ongoing clotting condition or other risk factor remains. Taking anticoagulants as directed and attending follow-up help manage this risk.

Can I eat normally after treatment?

Many people return to their usual diet as symptoms settle. Diet may need to change temporarily after bowel injury or surgery. If part of the intestine was removed, specific nutrition support may be needed based on which section and how much was removed.

Is mesenteric venous thrombosis cancer?

No. It is a blood clot, not a cancer. However, cancer can increase the tendency for blood to clot, so an appropriate evaluation for underlying causes may be part of care.

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