TEST

Vasoactive intestinal peptide test

A blood test that measures vasoactive intestinal peptide to investigate persistent watery diarrhea and suspected VIP-producing tumors.

WHAT IT MEASURES
Vasoactive intestinal peptide, a hormone controlling intestinal fluid secretion

SAMPLE
Blood from a vein

FASTING NEEDED?
Yes, usually eight hours; water is generally allowed

HOW LONG IT TAKES
About five to ten minutes

RESULTS IN
Several days, with timing varying by laboratory

USED FOR
Diagnosing suspected VIP-producing tumors causing secretory diarrhea

MAIN LIMITATION
Poor sample handling can falsely lower the result

Overview

A vasoactive intestinal peptide test measures VIP in your blood. VIP is a hormone-like chemical made by nerves in the digestive system and other parts of the body. It helps control the movement of water and salts into the intestine.

Small amounts of VIP normally circulate in the blood. Rarely, a tumor releases too much VIP. These are often called VIPomas. Many begin in the pancreas and belong to a group called neuroendocrine tumors, which develop from cells that make hormones.

Too much VIP can cause large amounts of watery diarrhea. This may lead to dehydration and low potassium. The test is not a general screening test for cancer or for ordinary short-term diarrhea.

Why the test is ordered

The test is mainly used to investigate persistent, high-volume watery diarrhea that continues

during fasting. This pattern is called secretory diarrhea because the intestine keeps releasing water and salts even when you are not eating.

Your healthcare team may order it when symptoms and other test results suggest excess VIP, especially if you also have:

A VIP test may also be used after treatment for a confirmed VIP-producing tumor. In that setting, changing levels can sometimes help show whether treatment is controlling hormone production.

- Low potassium or other changes in blood salts
- Dehydration
- Flushing or warmth of the skin
- Reduced stomach acid
- Weight loss related to prolonged diarrhea
- No clear explanation after more common causes have been assessed

Who should have the test

This test is usually reserved for people with ongoing, unexplained secretory diarrhea. Most diarrhea is caused by infections, medicines, food intolerance, inflammatory conditions, or other much more common problems. VIP testing is not usually helpful until these possibilities have been considered.

Children may occasionally be tested when symptoms suggest a VIP-producing tumor arising from nerve tissue. Interpretation in children requires age-appropriate laboratory information and specialist assessment.

Testing should be based on the overall clinical picture. An isolated VIP result cannot confirm or exclude a tumor by itself.

How to prepare

Many laboratories ask you to fast for about eight hours before the blood draw. During a fast, do not eat or drink anything except plain water unless your laboratory gives different instructions.

Follow the instructions from the laboratory performing the test. VIP testing is often sent to a specialist laboratory, and preparation requirements can differ.

Tell your healthcare team about prescription medicines, over-the-counter products, vitamins,

and supplements. In particular, mention medicines that affect hormone release or are being used to treat a neuroendocrine tumor. Do not stop a medicine unless the clinician who prescribed it tells you to.

If possible, testing may be most informative while the unexplained watery diarrhea is active. Ask whether this matters in your situation.

What happens during the test

A healthcare professional takes blood from a vein, usually in your arm. A band is placed around your upper arm, the skin is cleaned, and a small needle is inserted. The collection generally takes a few minutes.

VIP breaks down quickly after blood is collected. The laboratory may use a chilled collection tube and place it on ice immediately. The plasma-the liquid part of blood-must usually be separated promptly and frozen.

These handling steps are important. A sample that becomes warm or sits too long before processing may contain less measurable VIP than it did when collected.

Understanding your results

Your result will be reported with the reference range used by the testing laboratory. There is no single cutoff that should be applied to every person or every assay. Ranges and interpretation can vary by laboratory, age, sex, pregnancy status, medicines, kidney function, and clinical context.

A result within the laboratory's range makes major ongoing VIP excess less likely. It does not completely exclude intermittent hormone release, especially if the sample was collected when symptoms were quiet or was not handled correctly.

A clearly elevated result may support excess VIP production when you also have typical secretory diarrhea and related blood-salt changes. Mild elevations are less specific and can occur without a VIPoma.

An unexpected high result is often repeated using a carefully collected fasting sample. Your healthcare team will interpret the number alongside your symptoms, stool tests, electrolyte levels, kidney function, and any imaging results.

What affects the results

VIP is fragile, so collection and processing have an unusually large effect on this test.

Factors that can change or confuse the result include:

Age and pregnancy can affect how laboratory results are assessed, although they are not common explanations for a major VIP elevation. Recent blood transfusion is not considered a major direct influence on VIP, but you should still report it because it may affect other blood tests being interpreted at the same time.

Exercise is not known to be a major direct source of VIP test error. However, strenuous activity can affect hydration and other blood results, so follow any exercise restrictions provided by the laboratory.

- Delayed cooling or processing: VIP may break down, producing a falsely low result.
- Testing between episodes: A tumor may not release the same amount continuously, so the level can be lower when diarrhea is inactive.
- Eating before the test: Food can affect digestive hormone activity and make interpretation less reliable.
- Kidney impairment: Reduced clearance may contribute to an elevated result.
- Other illnesses: Some intestinal, liver, heart, or nervous-system conditions may cause smaller elevations.
- Medicines that suppress hormone release: Drugs such as somatostatin analogues may lower VIP levels during treatment.
- Laboratory assay interference: Antibodies or other substances in the blood can occasionally produce a falsely high measurement.

Accuracy and limitations

VIP testing is useful only in a narrow clinical setting. Because VIP-producing tumors are uncommon and laboratories use different methods, there is no reliable universal figure for how often the test misses one or gives a false alarm.

The test may miss excess VIP if hormone release is intermittent, the blood is collected when symptoms are absent, or the specimen is not chilled and processed correctly. A false-positive result can occur with kidney impairment, another serious illness, or interference within the laboratory method.

A high VIP level does not show where the VIP is coming from. Imaging such as CT, MRI, or

specialist nuclear medicine scanning may be needed to locate a suspected tumor, but imaging is generally interpreted only after the blood result and symptoms have been reviewed together.

For most people with watery diarrhea, stool studies, medication review, blood tests, and evaluation for common digestive conditions are more useful first tests. Repeating VIP under controlled conditions is often better than acting on one unexpected result.

Risks and complications

The risks are those of an ordinary blood draw. You may have brief discomfort, a small bruise, or feel light-headed or faint.

What happens next

A normal result may lead to routine follow-up and further assessment for other causes of diarrhea. If the result is unexpectedly elevated, the test may be repeated before imaging or other specialist investigations are arranged.

A confirmed elevation that fits your symptoms may lead to referral to a gastroenterologist, endocrinologist, or neuroendocrine tumor team. Further tests may assess hydration, potassium, kidney function, stool composition, and the possible source of VIP.

Seek urgent medical care if ongoing diarrhea causes very little urine, marked weakness, fainting, confusion, or an inability to keep fluids down. A racing or irregular heartbeat can occur with a severe potassium disturbance and also needs urgent assessment.

Call emergency services for collapse, severe breathing difficulty, chest pain, or severe confusion. Blood or black stool, severe abdominal pain, or a high fever also needs prompt medical assessment because these features are not typical of uncomplicated VIP excess and may have another cause.

Common questions

Can I drink coffee before a VIP test?

Usually not. If you have been told to fast, drink only plain water. Coffee, including black coffee, may activate the digestive system and make the result harder to interpret.

Does the time of day matter?

There is no universally required time. Morning testing is often convenient because fasting overnight is easier. Collecting the sample while significant watery diarrhea is active may be more important than the exact hour.

Can I exercise beforehand?

Exercise is not a well-established direct interference. Avoid unusually strenuous exercise if it could leave you dehydrated, and follow the laboratory's specific instructions.

Should I stop my medicines?

Do not stop them on your own. Tell your healthcare team about all medicines and supplements, especially treatments that suppress hormone release or medicines that may be contributing to diarrhea.

Why might the test need to be repeated?

VIP can be released unevenly, and it breaks down quickly after collection. Repeating an unexpected result with careful fasting, cooling, and processing helps reduce the chance of a misleading result.

How long will I wait for the result?

VIP is often measured in a specialist laboratory rather than at the collection site. Results commonly take several days, but the turnaround may be longer depending on transport and the laboratory's testing schedule.

Sources

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