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## Low gamma gt in blood test

Doctors use the gamma-glutamyl transferase (GGT) blood test to diagnose liver problems. High levels of GGT can indicate damage to the liver or bile ducts, or other conditions.A typical range for GGT levels in adults and children is between 0 and 50 international units per liter (IU/L). With the GGT test, a healthcare professional measures the levels of GGT in a sample of blood. When GGT falls within the typical range, it suggests that there is no liver damage.Read on to learn more about the GGT test, including its purpose, what it involves, and what abnormal GGT ranges can mean.Share on PinterestAni Dimi/StocksThe GGT test should take about 5 minutes. During the test, the healthcare professional:ties a band around the upper armcleans the inner elbow thoroughly with an alcohol padinserts a small needle into the skincollects a small tube of bloodAfter collecting the sample, the healthcare professional will remove the needle and the band. They will also apply pressure to the site to make sure any bleeding stops.As with any other blood test, the blood draw may cause minor discomfort. This pain should pass quickly.The healthcare professional labels the sample and sends it to a lab for testing. The lab should produce the results within a day or two, though it may take a little longer for the doctor to receive and interpret the results.A doctor may order a GGT test for the following reasons: as part of regular blood testing or physical examinationif a person is taking a medication that has potentially toxic effects on the liverif a person has symptoms of liver diseasemonitoring the treatment of people with alcohol use disorderA GGT test cannot diagnose the cause of any liver problems, so doctors usually also request other liver blood tests, such as an alkaline phosphatase (ALP) test. ALP is another liver enzyme that doctors use to help diagnose bone disorders in addition to liver disease. The symptoms of liver damage can range in severity. Some symptoms can include:A person does not usually need any special preparations for a GGT test. However, a person should check with their doctor in case they need to fast before the test, or if they need to avoid anything specific, such as alcohol. The doctor can also confirm if a person can continue taking any medications as usual.The liver contains the highest levels of GGT, while the blood and some other organs contain minimal quantities.High levels of GGT in the blood could indicate that the enzyme is leaking out of the liver cells and into the blood. This may suggest that there is damage to the liver or bile ducts. GGT levels rise according to the amount of liver damage a person has. High GGT levels could indicate liver damage, though it does not diagnose the specific cause. A person often needs follow-up tests to determine the reasons for the elevated GGT levels.GGT levels may increase for many reasons. A doctor may request other tests in conjunction with a GGT test to diagnose liver disease or determine the underlying cause.Liver damage can cause high GGT levels.Some conditions that can cause liver damage include:Exposure to toxins and taking some medications may also cause liver damage.GGT levels tend to be higher in people who regularly drink alcohol, compared with people who drink in moderation or only on occasion. Because of this, a doctor may measure GGT levels to test for alcohol use disorder.Doctors may use the test to monitor alcohol use in someone receiving treatment for alcohol use disorder or hepatitis due to chronic alcohol use.A blood test is a safe procedure. Some people may experience bruising at the needle insertion site after the test. A person may also feel a little sore for a short time after the test.Occasionally, a person may feel dizzy or anxious during the test, causing them to faint. It is important to let the person performing the blood test know if a person feels particularly nervous or lightheaded.A high level of GGT can depend on the laboratory performing the test, but anything over 50 IU/L can indicate liver damage. For some laboratories, this number might be lower. For example, the United Kingdom's NHS suggests that a high level of GGT is over 40 IU/L.Nonalcoholic fatty liver disease may cause high GGT levels. However, there are numerous other possible causes of liver damage and high GGT levels. A doctor will need to order other tests to determine the underlying condition. Learn about nonalcoholic fatty liver disease.A gamma-glutamyl transferase (GGT) test is a blood test that a doctor may order to assess damage to the liver or bile ducts. The GGT test typically forms part of a series of tests to help with diagnosing certain conditions, such as causes of liver damage or bile duct obstruction. It can also help with monitoring alcohol use disorder. A typical range for GGT is 6 to 50 IU/L, though this can vary. Newborn babies may have significantly higher levels. A person's doctor can provide more information about their GGT levels, and whether further tests are necessary. Share — copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt — remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. URL of this page: A gamma-glutamyl transferase (GGT) test measures the amount of GGT in your blood GGT is an enzyme. Enzymes are proteins that speed up certain chemical reactions in your body. Thousands of enzymes play an important role in all of your body functions. The GGT enzyme is found throughout your body, but it is mainly found in your liver. If your liver or bile duct is damaged, GGT may leak into your bloodstream. So high levels of GGT in your blood may be a sign of liver disease or damage to the bile ducts. Bile ducts are tubes that carry bile in and out of the liver. Bile is a fluid made by the liver that is important for digestion. A GGT test can't diagnose the specific cause of liver disease. The test can only indicate that your liver is being damaged. This test is usually done with or after other liver function tests, most often an alkaline phosphatase (ALP) test. ALP is another type of liver enzyme. While both your GGT and ALP may be elevated in diseases that affect your bile ducts and liver, only ALP will be elevated in bone disease. This helps your health care provider to understand if your issue may be due to a bone disorder instead of your liver. Other names: gamma-glutamyl transpeptidase, GGTP, Gamma-GT, GTP A GGT test is most often used to: Help diagnose liver disease Figure out if liver damage is due to liver disease or a bone disorder Check for blockages in the bile ducts Screen for or monitor alcohol use disorder (AUD). Drinking alcohol increases GGT levels. Most people with AUD have high GGT levels. You may need a GGT test if you have symptoms of liver disease. They may include: Your provider may use this test to monitor your alcohol use if you're being treated for AUD. You may also need this test if you have abnormal results on an ALP test and/or other liver function tests. A health care professional will take a blood sample from a vein in your arm, using a small needle. After the needle is inserted, a small amount of blood will be collected into a test tube or vial. You may feel a little sting when the needle goes in or out. This usually takes less than five minutes. Talk to your provider to see if there are any specific instructions, since the results of your GGT test may be affected by: Certain medicines or supplements Drinking alcohol Smoking cigarettes GGT levels go down after meals. Your provider may also ask you to fast for a certain amount of time before testing. There is very little risk to having a blood test. You may have slight pain or bruising at the spot where the needle was put in, but most symptoms go away quickly. If your results show higher-than-normal levels of GGT, it may be a sign of liver damage. The damage may be due to one of the following conditions: The results can't tell you which condition is causing your liver damage, but they can help show how much damage there is. Usually, the higher the level of GGT, the more liver damage you have. If your results show low or normal levels of GGT, you probably don't have liver disease. Your results may also be compared with the results of an ALP test. ALP tests help diagnose bone disorders. Together, your results show one of the following: High levels of ALP and high levels of GGT mean your symptoms are likely due to a liver disorder and not a bone disorder. High levels of ALP and low or normal GGT levels mean it's more likely you have a bone disorder. If you have questions about your results, talk to your provider. Your provider will consider your symptoms, medical history, and the results of other blood tests to understand the results of your GGT test. Learn more about laboratory tests, reference ranges, and understanding results. In addition to an ALP test, your provider may order liver function tests with or after the GGT test. These may include: American Liver Foundation. [Internet]. New York: American Liver Foundation; c2024. Diagnosing Liver Disease - Liver Biopsy and Liver Function Tests; [updated 2024 Jan 12; cited 2024 Feb 28]; [about 7 screens]. 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Available from: Testing.com [Internet]. Seattle (WA): OneCare Media; c2024. GGT Blood Test (Gamma-Glutamyl Transferase/Transpeptidase); [updated 2022 Sep 29; cited 2024 Feb 28]; [about 9 screens]. Available from: Xing M, Gao M, Li J, Han P, Mei L, Zhao L. Characteristics of peripheral blood Gamma-glutamyl transferase in different liver diseases. Medicine (Baltimore). 2022 Jan 7;[cited 2024 Mar 18] [about 17 screens]. 101(1):e28443. doi: 10.1097/MD.00000000000028443. PMID: 35029891; PMCID: PMC8735790. Learn how to cite this page The GGT test may be used to determine the cause of elevated ALP. Both ALP and GGT are elevated in diseases of the bile ducts and in some liver diseases, but only ALP will be elevated in bone disease. Therefore, if the GGT level is within the reference range if you have a high ALP result, the cause is most likely bone disease. The GGT test is sometimes used to help detect liver disease and bile duct obstructions. It is usually ordered in conjunction with or as follow-up to other liver tests such as alanine aminotransferase (ALT), aspartate aminotransferase (AST), ALP, and bilirubin. In general, an increased GGT level indicates that the liver is being damaged but does not specifically point to a condition that may be causing the injury. GGT can be used to screen for chronic alcohol abuse (it will be elevated in about 75% of chronic drinkers) and to monitor for alcohol use and/or abuse if you are receiving treatment for alcoholism or alcoholic hepatitis. What does the test measure? GGT is an enzyme that is found in many organs throughout the body, with the highest concentrations found in the liver. It is elevated in the blood in most diseases that cause damage to the liver or bile ducts. This test measures the level of GGT in a blood sample. Normally, GGT is present in low levels, but when the liver is injured, the level can rise. GGT is usually the first liver enzyme to rise in the blood when any of the bile ducts that carry bile from the liver to the intestine become obstructed, for example, by tumors or stones. This makes it the most sensitive liver enzyme test for detecting bile duct problems. But the GGT test is not very specific or useful in differentiating between various causes of liver damage. It can be elevated with many types of liver diseases, such as liver cancer and viral hepatitis, as well as other non-hepatic conditions, such as acute coronary syndrome. For this reason, the GGT test is not recommended for routine use by itself. But it can be useful in conjunction with other tests and in determining the cause of a high alkaline phosphatase (ALP) level, another enzyme found in the liver. Both GGT and ALP are increased in liver diseases, but only ALP will be increased with diseases affecting bone tissue. Therefore, GGT can be used as a follow-up to an elevated ALP to help determine if the result is due to liver or bone disease. GGT levels are sometimes increased with the consumption of even small amounts of alcohol. Higher levels are found more commonly in chronic heavy drinkers than in people who consume less than two to three drinks per day or who only drink heavily on occasion (binge drinkers). The GGT test may be used in evaluating someone for acute or chronic alcohol abuse. When should I get this test? A GGT test may be ordered when you have an elevated ALP level. An ALP test may be ordered alone or as part of a routine liver panel to screen for liver damage, even if no symptoms are present. The GGT test may be ordered when results of the ALP test are high but other tests that are part of the liver panel (such as AST and ALT) are not increased. GGT may be ordered along with or as a follow-up to other liver function tests when you have signs or symptoms that suggest liver disease, such as: Weakness, fatigue Loss of appetite Nausea and vomiting Abdominal swelling and/or pain Jaundice, which is yellowing of the skin and whites of the eyes Dark urine, light-colored stool Itching (pruritus) GGT may also be ordered when someone with a history of alcohol abuse has completed alcohol treatment and it is necessary to monitor in compliance with the treatment program. Your doctor may order a GGT test if you have elevated ALP levels, or as part of a routine liver panel to screen for liver damage. GGT testing uses a sample of blood to test for elevated GGT levels in the blood. When prescribed by a doctor, a blood sample may be collected in a hospital or other medical setting and sent to a laboratory for analysis. Blood is usually drawn from a vein in your arm. Can I take the test at home? You can find at-home liver tests that screen for GGT, among other proteins, using a finger prick blood test taken before breakfast. Next, you send your sample to a lab using a prepaid envelope for testing. These tests are convenient but may not be as extensive or reliable as a liver panel ordered by your doctor. If your at-home test comes back with an abnormal result, consult with your doctor for confirmatory testing and the next steps. How much does the test cost? The cost of GGT testing varies based on many factors. When ordered by a doctor, your health insurance may cover GGT testing. Health plans vary, so if you have health insurance, it's important to talk to an administrator about the cost of testing, including any copays or deductibles that may be required. If you don't have health insurance coverage that covers GGT testing, it may be helpful to discuss the cost of testing with a doctor. The total cost can include the office visit, the blood draw, and technician fees in addition to the price of laboratory testing. A GGT test is performed on a blood sample taken from a vein in your arm, which will be collected in a laboratory or medical facility. Before the test GGT levels fall after meals, so you may be instructed to fast (nothing to eat or drink except water) for at least eight hours prior to the test. You may also be asked to stop drinking alcohol or taking certain prescription medications beforehand. During the test During a blood draw, a health care provider takes a sample of blood from a vein in your arm. After locating an appropriate vein and cleaning the collection site, a small needle is inserted into the vein, and blood is collected in an attached vial. A blood draw usually takes less than five minutes. After the test After a blood sample is collected, a bandage or piece of gauze may be applied to reduce additional bleeding. Risks of blood collection are minimal, although you may have light bruising and tenderness where the needle was inserted. There are no restrictions on normal activities after a blood sample is collected. GGT test results may be available within a few business days after the laboratory receives your blood sample. Results may be available online or through your doctor. You may need to schedule a follow-up appointment with your doctor to get them in person. Some providers also give test results by phone or postal mail. Interpreting test results Results of the GGT are interpreted along with ALP and other test results that may have been performed at the same time, such as a liver panel. An elevated ALP with a high GGT level helps rule out bone disease as the cause of the increased ALP level. If you have an elevated ALP with a low or normal GGT it means the increased ALP is more likely due to bone disease. An elevated GGT level suggests that a condition or disease is damaging the liver but does not indicate specifically the cause of the damage. In general, the higher the level, the greater the damage. Elevated levels may be due to liver diseases, such as hepatitis or cirrhosis, but they may also be due to other conditions, such as congestive heart failure, metabolic syndrome, diabetes, or pancreatitis, which is inflammation of the pancreas. They may also be caused by alcohol abuse, alcoholic liver disease, or the use of drugs that are toxic to the liver. A low or normal GGT test result indicates that it is unlikely that you have liver disease or have consumed any alcohol. GGT is very sensitive and can be increased when you don't have symptoms. This may be temporary, perhaps due to medications you are taking or if you drink alcohol within 24 hours of the test. If other liver enzymes are normal, your health care practitioner may repeat the GGT test at a later date. If the GGT is very high and/or your other liver enzymes are elevated, you may need additional testing to identify the cause. Even small amounts of alcohol within 24 hours of a GGT test may cause a temporary increase in the GGT. However, genetic variability between individuals can cause differences in this response of GGT to alcohol use. Smoking can also increase GGT. Elevated GGT levels may be an indicator of cardiovascular disease and/or hypertension. Some studies have shown that if you have increased GGT levels when you have an elevated risk of dying from heart disease, but the reason for this association is not yet known. Low levels of GGT are observed in certain genetic diseases where the flow of bile from the liver is interrupted or suppressed. Drugs that may cause an elevated GGT level include: Phenytoin, carbamazepine, and barbiturates such as phenobarbital Many other prescription and non-prescription drugs, including nonsteroidal anti-inflammatory drugs (NSAIDs), lipid-lowering drugs, antibiotics, histamine receptor blockers (used to treat excess stomach acid production) Antifungal agents, antidepressants, oral contraceptives and hormones such as testosterone Certain anticoagulants (e.g., heparin) and immunosuppressive medications (e.g., methotrexate) also increase GGT levels in serum Levels of GGT increase with age in women, but not in men, and are always somewhat higher in men than in women. You may want to ask your doctor some follow-up questions, such as: Were any of the measurements on my test abnormal? If so, which ones? What might explain any abnormal results? Based on my GGT results, are there any other tests that you recommend? Should I have the GGT test again? If so, when should it be done? 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