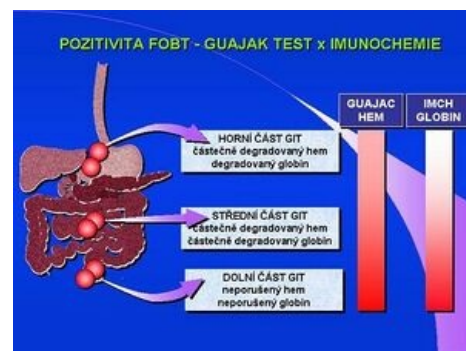


Immunochemical test for blood in feces

Immunochemical detection of blood in the stool (iFOBT) is intended, unlike the screening guaiac test (Haemocult, gFOBT), to rule out bleeding into the GIT. The test is based on immunochemical detection of hemoglobin in reactions with monoclonal antibody against human hemoglobin. Sensitivity and positive identification is also significantly affected by the different degradation of both components of hemoglobin with respect to the proximodistal gradient in the digestive system. Globin is degraded much more rapidly, and a positive immunochemical test almost eliminates the detection of bleeding in the upper part of the alimentary canal. Hemagglutination, latex immunoprecipitation, radial immunodiffusion and immunoaffinity chromatography tests are based on the immunochemical principle. Detection of the protein (human hemoglobin) monoclonal antibody excludes the possibility of being affected by another source of hemoglobin (food), the interference of chemical substances is eliminated, and a special diet is not necessary. The sensitivity of immunochemical tests is significantly higher; depending on the technique and < 0.1 mg hemoglobin/g stool. Immunochemical tests include, for example, the latex Hemolex test, Heme-Select based on the principle of reverse passive hemagglutination, ImmoCare immunoaffinity chromatography, Dialab FOB test, Hexagon OBTI, Actim test and others.



FOBT positivity - Guaiac test x immunochemistry

Test Execution

Immunochemical tests vary significantly according to the type of technique used. Recently, the most widespread variant is immunoaffinity chromatography. The patient collects 1 stool sample in a collection container with a stabilizing solution. However, Stool sampling involves a significant risk of preanalytical error. Laboratory processing consists of applying a drop of extract to the test and reading 1 or 2 colored strips that detect the presence of only the antibody with a colored marker (negative test, 1 colored strip) or the formation of an antigen-antibody complex (positive test, 2 colored strips). The evaluation is again only qualitative.

Studies have been testing several immunochemical analyzers for quantitative determination of hemoglobin in stool (qi-FOBT) in recent years, most of which are of Japanese manufacture. ROC curves demonstrate a specificity for advanced adenomass of 95.3% at a sensitivity of 100 ng Hb/mL.



Immunochemical tests - FOBT

Links

Source

- KOCNA, Peter. *GastroLab : MiniEncyclopedia of laboratory methods in gastroenterology* [online]. ©2002. The last revision 2011-01-08, [cit. 2011-03-04]. <<http://www1.lf1.cuni.cz/~kocna/qlab/qlency1.htm>>.

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