Determination of antibodies against Helicobacter pylori

Antibodies to *Helicobacter pylori* in serum can be detected by a whole range of immunological and serological techniques such as immunoblotting, immunofluorescence , hemagglutination , complement fixation, latex tests, etc. However, **the most widespread method** is undoubtedly **ELISA** - a simple, fast, cheap and reliable technique. However, the specificity and sensitivity of the method is highly dependent on the antigen used – from whole cells, via ultrasonic sonication, glycine extract to purified proteins. In 1989, the isolation of a high molecular weight surface protein (designated HM-CAP, high molecular weight cell-associated protein) was described, with a specificity and sensitivity of 95%.

Serological detection of antibodies to *Helicobacter pylori* is of clinical importance mainly for long-term follow-up after treatment and for monitoring the success of *Helicobacter pylori* eradication . A decrease in IgG after 6 months of treatment to values < 50% shows a specificity of 95% and a sensitivity of 97%. Indications include screening of high-risk patients, e.g. kidney transplant patients , when helicobacter infection increases the risk of peptic ulcer and bleeding.

Sensitivity and specificity of tests for *H. pylori*

Antibodies to *Helicobacter pylori* can also be detected in **saliva or urine using immunological techniques.** There are also a number of so-called rapid tests , where antibodies to Helicobacter pylori are detected from whole blood, after capillary sampling within a few minutes using the immunoaffinity chromatography method. The specificity and sensitivity of these tests is relatively low – 70 to 85%.

The serological diagnosis of antibodies to *Helicobacter pylori* also includes the detection of cagA, vacA and iceA antigens, the presence of which specifies strains of *Helicobacter pylori* with higher pathogenicity. Classic ELISA tests on microtitre plates or PCR techniques are used to detect these antigens. Detection of *Helicobacter pylori* and its strains by PCR methods is in the phase of clinical testing, it is not yet used in routine diagnostics. The diagnostic value of determining antibodies to *Helicobacter pylori* is still a subject of research, it is not suitable for screening programs.

Links

Related Articles

- diagnosis of helicobacter infection
- Breath tests with carbon-13
- Detection of Helicobacter pylori antigen in stool

Source

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