

EUROPEAN HELICOBACTER STUDY GROUP
20Th International workshop on helicobacter and related bacteria
in chronic digestive inflammation
Istanbul, Turkey
September 20-22th 2007



Evaluation of a polyclonal Helicobacter Pylori stool antigen test HpSAT for the detection of Helicobacter Pylori infection in children

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Abstract: **BACKGROUND:** Reliable non invasive methods are required for the initial diagnosis of *Helicobacter pylori* infection and to monitor the success of eradication therapy.

OBJECTIVE: To evaluate stool antigen test and urea breath test (UBT) for their accuracy in diagnosing *H. pylori* infection in children in comparison with the gold-standard invasive test, endoscopy with biopsy.

METHODS: 63 patients (28 boys, 35 girls) with a mean age of 7.2 y (SD 2.9) undergoing upper gastrointestinal endoscopy for evaluation of symptoms related to the upper gastrointestinal tract were included in the study. After an overnight fast, the children received 200 ml of water containing 75 mg of ¹³C urea. Breath samples at baseline and after 30 minutes were analyzed with a non dispersive infrared spectrometry. UBT was considered positive when delta over baseline was >3%. HpSAT was determined by an enzyme-linked immuno-sorbent assay commercial kit with polyclonal antibodies (Medcard Pylori MEDIMAR MILAN-ITALY). A child was considered infected with *H. pylori* when histology and rapid urease test were positive.

RESULTS and CONCLUSIONS: Forty seven children were infected with *H. pylori*. UBT had a sensitivity of 93.7% and a specificity of 100%. HpSAT showed a sensitivity of 89.3% and a specificity of 93.7%.

Our study demonstrates that among non-invasive and easily applicable tests, particularly in small children, HpSAT is simple, suitable, and has high accuracy for the detection of *H. pylori* infection. The test may become a good alternative in settings where UBT is not available or difficult to perform

Topic (Complete): 9. Paediatric issues

Keyword (Complete): stool antigen test ; breath test ; invasive test

Presentation Preference (Complete): No Preference