

The Comparative Study of three methods of microscopic, urease test and culture in diagnostic of *Helicobacter pylori* causing peptic ulcer

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Abstract

Background and objectives: *Helicobacter pylorus* is a helical gram negative bacterium with polar flagella, discovered by Warren and Marshall in 1983. *Helicobacter pylori* exist in the stomach mucus tissue of less than 20% of people under 30 years old, but this amount would increase up to 40% and 60% in 60- year- old people. The aim of this study was to compare three methods of culture media, direct slide staining and the urease test for the rapid diagnosis of bacterium in case of peptic or duodenal ulcer.

Material and Methods: In This descriptive study, duplicate biopsy specimens were taken from 82 clients referring to four different Hospitals .In endoscopy room of the Hospitals, a rapid urease test were carried out on one of duplicate specimens for the presence or non-presence of *Helicobacter pylori*. In order to see the *Helicobacter pylori* in the tissues, three slides using foushin, giemsa, and gram staining were prepared from the second specimens. Then, the specimens were incubated into selective culture media and incubated for 4-6 days in micraerophilic condition.

Results: Of 82 tested specimens 70(85.5%) and 66(80.5%) are identified as *Helicobacter pylori* by positive urease and culture medium, respectively. The frequency of foushin, giemsa, and gram staining are 67 (81.7%), 66 (80.5%), and 61 (74.4%), respectively. The foushin staining is the best with 100% sensitivity among the other methods.

Conclusion: Based on difference between proportions, There is no significant difference between staining methods (foushin, giemsa, gram staining) and culture media in all cases.

Key words: *Helicobacter pylori*, microscopic methods, urease test, culture media, identification