

February 27-28, 2019
Prague, Czech RepublicJ Infect Dis Treat 2019, Volume: 5
DOI: 10.21767/2472-1093-C1-009

A DIAGNOSTIC ACCURACY STUDY: COMPARISON OF TWO DIFFERENT MOLECULAR BASED TESTS (GENOTYPE HELICO DR AND SEEPLEX CLAR-*H. PYLORI* ACE DETECTION), IN THE DIAGNOSIS OF *HELICOBACTER PYLORI* INFECTIONS

Recep Kesli¹, Huseyin Bilgin², Yasar Unlu³ and Gokhan Gungor³¹Selcuk University, Turkey²Uludag University, Turkey³Saglik Bilimleri University, Turkey

Aim: The aim of this study was to compare the diagnostic values of two different molecular based tests (GenoType® HelicoDR ve Seeplex® *H. pylori*-ClAR- ACE Detection) in detection presence of the *H. pylori* from gastric biopsy specimens. In addition to this, we also aimed to determine resistance ratios of *H. pylori* strains against to clarithromycin and quinolone isolated from gastric biopsy material cultures by using both the genotypic (GenoType® HelicoDR, Seeplex® *H. pylori* -ClAR-ACE Detection) and phenotypic (gradient strip, E-test) methods.

Material & Methods: A total of 266 patients who admitted to Konya Education and Research Hospital, Department of Gastroenterology with dyspeptic complaints, between Jan' 2011-Jun' 2013, were included in the study. Microbiological and histopathological examinations of biopsy specimens taken from antrum and corpus regions were performed. The presence of *H. pylori* in all the biopsy samples was investigated by five different diagnostic methods together: culture (C) (Portagerm pylori-PORT PYL, Pylori agar-PYL, GENbox microaer, bioMerieux, France), histology (H) (Giemsa, Hematoxylin and Eosin staining), rapid urease test (RUT) (CLOtest, Cimberly-Clark, USA) and two different molecular tests; GenoType® HelicoDR, Hain, Germany, based on DNA strip assay, and Seeplex® *H. pylori* -ClAR- ACE Detection, Seegene, South Korea, based on multiplex PCR. Antimicrobial resistance of *H. pylori* isolates against clarithromycin and levofloxacin was determined by GenoType® HelicoDR, Seeplex® *H. pylori* -ClAR- ACE Detection, and gradient strip (E-test, bioMerieux, France) methods. Culture positivity alone or positivities of the both histology and RUT together was accepted as gold standard for *H. pylori* positivity. Sensitivity and specificity rates of two molecular methods used in the study, were calculated by taking the two gold standards previously mentioned.

Results: A total of 266 patients between 16-83 years old, out of which 144 (54.1%) were female, 122 (45.9%) were male were included in the study. 144 patients were found as culture positive and 157 were H and RUT were positive together. 179 patients were found as positive with GenoType® HelicoDR and Seeplex® *H. pylori* -ClAR-ACE Detection together. Sensitivity and specificity rates of studied five different methods were found as follows: C were 80.9% and 84.4% , H + RUT were 88.2% and 75.4%, GenoType® HelicoDR were 100 % ve 71.3 % , and Seeplex® *H. pylori* -ClAR- ACE Detection were, 100% and 71.3%. A strong correlation was found between C and H+RUT, C and GenoType® HelicoDR, and C and Seeplex® *H. pylori*-ClAR-ACE Detection ($r=0.644$ and $p=0.000$, $r=0.757$ and $p=0.000$, $r=0.757$ and $p=0.000$, respectively). Of all the isolated 144, *H. pylori* strains, 24 (16.6%) were detected as resistant to clarithromycin and 18 (12.5%) were levofloxacin. Genotypic clarithromycin resistance were detected only in 15 cases with GenoType® HelicoDR and 6 cases with Seeplex® *H. pylori* -ClAR- ACE Detection.

Conclusion: In this study it was concluded that GenoType® HelicoDR and Seeplex® *H. pylori* -ClAR-ACE. Detection was found as the most sensitive diagnostic methods when compared to all the investigated other ones (C, H, and RUT).

recepkesli@gmail.com