Abstract: Background and Objective: Helicobacter pylori is strongly associated with gastric diseases, such as duodenal and gastric ulcers, which are important risk factors in gastric cancer evolution. Treatment of infection caused by this organism has been shown to require a combination of antibiotics, such as clarithromycin, metronidazole, amoxicillin and other antibiotics. However, the high prevalence of resistant strains to these antimicrobial agents can lead to therapeutic failure. In this study H. pylori susceptibility patterns were studied against some antibiotics.

Methods: A total of 212 patients undergoing endoscopy in Emam Reza Hospital in Tabriz, were included in this study. H. pylori isolates were collected from gastric biopsies by culture and confirmed by the Gram staining, rapid urease-test, catalase and oxidase tests. Antibiotic susceptibility of H. pylori isolates was determined by disk diffusion agar test.

Results: Of the total 212 specimens studied, 50 H. pylori were isolated (23.5%), which 24 (48.1%) of them were belonged to males and 26 (51.9%) were from females. The prevalence of resistance to clarithromycin, metronidazole, erythromycin, amoxicillin, ciprofloxacin, rifampin, nitrofurantoin and tetracycline, were 16 (32%), 45 (90 %), 26 (52%), 28 (56%), 27 (54%), 22 (44%), 15 (30%), and 21 (42%), respectively. No significant statistically difference was found between males and females (p < 0.18).

Conclusion: H. pylori antimicrobial resistance varies between different geographical regions. Therefore, healthcare awareness of the H. pylori susceptibility to each of the commonly used antibiotics is necessary to be able to recommend the most effective therapy regimens. We showed a high grade of metronidazole resistance rate among our isolates as previous studies. We found 32% resistance to clarithromycin, which is consistent with other studies (2 to 50%). Therefore, continuous prospective surveillance of H. pylori resistance is essential. Moreover, culture and antimicrobial susceptibility test is recommended for all patients.

H. pylori, Antimicrobial resistance, Clarithromycin, Metronidazole

Presentation: Poster