



## EVALUATION OF HELICOBACTER PYLORI COLONIZATION AT THE NORTHEAST REGION OF TURKEY

### General Surgery

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### ABSTRACT

**Aim.** Frequency of Helicobacter Pylori (HP) colonization in patients admitted to our hospital and to whom gastroscopy was performed electively. **Materials and method.** 1400 patients who were admitted to Sarıkamış State Hospital between 2012-2016 and to whom gastroscopy was performed electively were analysed retrospectively. HP frequency was researched. **Findings.** Of 1400 patients 798 were women (57%) and 994 (71.1%) were HP positive. Mean years of age was 36,9 (min 14, max 82). In endoscopic studies 697 patients (43,4%) had antral gastritis while 330 had erythematous pangastritis (23,6%) and 359 had bulbitis with gastric inflammation (25,7%); in 44 patients findings were grouped as other (inflammation in regions other than antrum, esophagitis, polypoid lesion). In 56 patients endoscopic findings were reported to be normal (4%). In 36 patients gastric ulcer (2,6%), in 235 patients duodenum ulcer (17,8%) and in 88 patients Barrett metaplasia (6,3%) was reported. **Results.** HP frequency between patients in NorthEast region of Turkey is determined to be 71.1%. There is a strong association between gastric ulser and HP.

### KEYWORDS

Endoscopy, gastritis, Helicobacter pylori.

### INTRODUCTION

Helicobacter pylori (HP) is a gram negative, microaerophilic, spiral-shaped and mobile microorganism. It is estimated that 50-90% of the world population is infected with this pathogenic microorganism and it is thought that the microorganism is taken into the body in the childhood age group (1). The prevalence of HP in developed countries is reported as 0-5% in the childhood age group and 30-50% in the adult population (2, 3). HP prevalence in the developing countries where it is included in our country is reported as 60-70% in childhood age group and 85-90% in adults (4, 5, 6).

HP colonization is a major risk factor for gastric ulcer, gastric adenocancer and MALT (mucosa-associated lymphoid tissue) lymphoma, as is known. The bacteria is colonized by various acid-resistant mechanisms. Especially in poor hygiene conditions and in crowded environments, where the HP infection is more frequent supports the possibility of fecal-oral transmission (3). The gold standard for HP diagnosis is the examination of the specimens taken with gastroscopic biopsy and the display of the bacteria by culture (7,8).

Our study aimed to determine the frequency of HP in the North Eastern Anatolia Region by examining the patients who received antrum biopsies by performing upper gastrointestinal system endoscopy for various reasons.

### MATERIALS AND METHODS

The data of 1520 patients who applied to Kars-Sarıkamış State Hospital between 2012-2016 for elective endoscopy for various reasons and biopsied were examined retrospectively. Age and gender information and histopathological diagnosis of the patients were recorded. Patients with known malignancy, active bleeding, and HP-eradication treatment were excluded from the study. 1400 patients were included in the study. The relationship between HP positivity and age, sex, stomach, and duodenal ulcer was examined.

Chi-square and Fisher exact tests were used to evaluate the data analysis. Calculations were performed using the SPSS 16.0 (Statistical Package for Social Sciences) program.

### FINDINGS

HP positivity was detected in 994 (71.1%) of 1400 patients with 798 women (57.0%). The mean age of the patients was  $36.9 \pm 17.4$  (min 14, max 82).

Endoscopically, 697 patients had isolated antral gastritis (43,4%), 330 patients had erythematous pangastritis (23,6%), 359 patients had gastric inflammation associated with bulbituria (25,7%), 44 patients had other inflammatory, esophagitis, polypoid lesion) were detected

(3,2%). Endoscopic findings were normal in 56 patients (4%). In addition, gastric ulcer (2.6%) was found in 36 patients, duodenal ulcer was found in 235 patients (17.8%) and Barrett metaplasia (6.3%) in 88 patients. Histopathological examination revealed gastritis (84,8%) in 1187 patients, duodenitis (7,9%) in 39 patients and other findings (intestinal metaplasia, polyp, Barrett metaplasia) in 110 patients (5.9%). 61 patients were reported to have gastric atrophy (4.4%), whereas 19 patients were reported as normal (1.4%). When statistical analyzes were examined, there was no significant relationship between age and sex and HP positivity. There was a statistically significant relationship between HP positivity and presence of duodenum and gastric ulcer. HP positivity was detected in all of the 36 patients diagnosed with stomach ulcer, whereas HP was defined in 202 of 235 patients with duodenal ulcer ( $p < 0.01$ ).

Patients with a mean age of 36.9 had no significant difference in the HP frequency between the groups when patients were divided into two groups of over 40 years old and under 40 years old. In the age group of 40 years and over, intestinal metaplasia was found to be significantly more frequent ( $p = 0.000$ ). From the point of ulcer formation, there was no significant difference between the groups in terms of gastric ulcer development, whereas the duodenal ulcer was significantly more frequent in the group under 40 years ( $p = 0.005$ ). In the patient group with age over 40 years, Barrett metaplasia was found higher ( $p = 0.04$ ). The incidence of gastritis was significantly higher in the group of 40 years and over ( $p = 0.000$ ).

While the frequency of the endoscopically normal patients was similar in both groups, it was noticed that all 19 cases reported to be histopathologically normal were in the group below 40 years of age.

### DISCUSSION

HP; is the most common permanent bacterial infection worldwide and is a major health problem in terms of the diseases it causes. It is reported that about more than half of the world's population is infected with HP (9). HP continues to live distal to the corpus, cardia and antrum. Although crossing between humans has not been fully established, both fecal-oral and oral-oral transmission have been reported (10).

In our study, HP positivity was found as 71.1%. The HP frequency was 52.8% in the studies of Umit et al. (11) at the Trakya region and the HP frequency in the gastroduodenal diseases. The HP frequency, in the retrospective study of Salih et al. In Istanbul was 62.7% (12). Similar to the studies carried out, we think that the higher HP frequency in our region may be related to the poor hygiene conditions and the habits of crowded living. In support of this thought, Uyanıkoğlu et al. (1996) found that 71% of our studies of 1298 patient data were similar to our HP frequency study (13).

