

# The epidemiological and endoscopic aspects of peptic ulcer disease in Van region

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**Objective** The aim of this study was to determine epidemiological and endoscopic aspects of PU disease in Van region.

**Method** We performed upper gastrointestinal endoscopy in 2735 patients with dyspeptic symptoms during the past three and a half years from June 1994 to December 1997 in our endoscopy unit.

**Results** Peptic ulcer (PU) disease was diagnosed at different locations in 298 (10.9 %) patients. A hundred and ninety two patients (64.4%) were males and 106 patients (35.6%) were females. The mean age was 41.1 (range: minimum 17- maximum 80). A hundred and twenty seven patients (42.6%) reported smoking, 12 patients (4.0%) reported alcohol consumption and 42 patients (14.1%) reported nonsteroidal antiinflammatory drug (NSAID) use. Helicobacter pylori (HP) infection was diagnosed in 82 % of the

patients with peptic ulcer. In this study, we determined that Duodenal ulcer/Gastric ulcer ratio was 4:1. The locations of ulcers were 80% in the first part of the duodenum (bulbus) especially at the anterior surface, and 20% in the stomach. Seventeen percent of GU with suspected malign appearance were confirmed as adenocarcinoma by biopsies. Housewife and officers were the most frequent (28-31%) professional groups with peptic ulcer disease.

**Conclusion** PU disease was thought to be an important social health problem in Van region related to HP infection, possibly smoking and stress factors in the middle age and male gender particularly.

**Key words** Peptic ulcer, epidemiology, endoscopy.

## Introduction

Peptic ulcer (PU) disease represents a worldwide health problem because of its high morbidity, mortality and economic loss. In the United States, approximately 5 million adults suffer annually from peptic ulcer disease and 500.000 new cases with 4 million recurrences are reported each year (1). In Van region, many patients apply to the research hospital because of the complaints suggesting PU.

## Material and Method

We performed upper gastrointestinal endoscopy in 2735 symptomatic patients residing in Van city and in its neighbourhood with flexible gastroduodeno-cope from June 1994 to December 1997. We examined all anatomic regions of the stomach, bulbus and second part of the duodenum. In PU patients, two biopsy specimens was obtained from corpus and antrum and helicobacter pylori (HP) infection was diagnosed by histopathological examination and urease testing. Age, gender, professional status, cigarette smoking, alcohol drinking, nonsteroidal anti-inflammatory drug (NSAID) use and ulcer lesions were recorded. Gastric ulcer biopsies (three-five for each patient) were evaluated by histopathological examinations with respect to malignancy.

## Results

During the last three and a half years we performed 2735 upper G I endoscopies and we observed PU disease in 298 patients (10.9%) at

different anatomic locations. A hundred and ninety

two patients (64.4%) were males and 106 patients (35.6%) were females. The mean age was 41.1 (range: minimum 17- maximum 80) and similar in both sexes. A hundred and twenty seven patients (42.6%) reported smoking, 12 patients (4.0%) reported alcohol consumption and 42 patients (14.1%) reported nonsteroidal antiinflammatory drugs use.

Table 1. The professional status and anatomic locations of peptic ulcer patients.

PROFESSION	Number	Ratio (%)
Housewife (H)	94	31.6
Officer (O)	84	28.2
Tradesmen (T)	42	14.1
Soldier (S)	35	11.8
Worker (W)	19	6.4
Retired (R)	16	5.3
Unoccupied (U)	8	2.6
Total	298	
<b>LOCATION (*)</b>		
<b>Stomach</b>		
Fundus	10	3.3
Corpus	19	6.3
Antrum	22	7.3
Pylor	14	4.6
<b>Duodenum</b>		
Bulbus		
Anterior	142	47.6
Posterior	27	9.0
Lesser curvature	68	22.8

Greater curvature	55	18.4
Second part	0	0

\*Some patients had peptic ulcers with more than one locations

H.P infection was diagnosed in 82 % of all peptic ulcer patients and in 75 % of NSAID users.

Of the 65 patients with gastric ulcer, 11 (17%) had suspected malign appearance in endoscopic examinations. All of them underwent gastric biopsy

and adenocarcinoma was diagnosed by histopathological examinations.

The professional status and anatomic locations of the peptic ulcer patients are presented in Table-1.

Risk factors of peptic ulcer disease and professional status of the patients were presented in Figure-1 and 2 respectively.

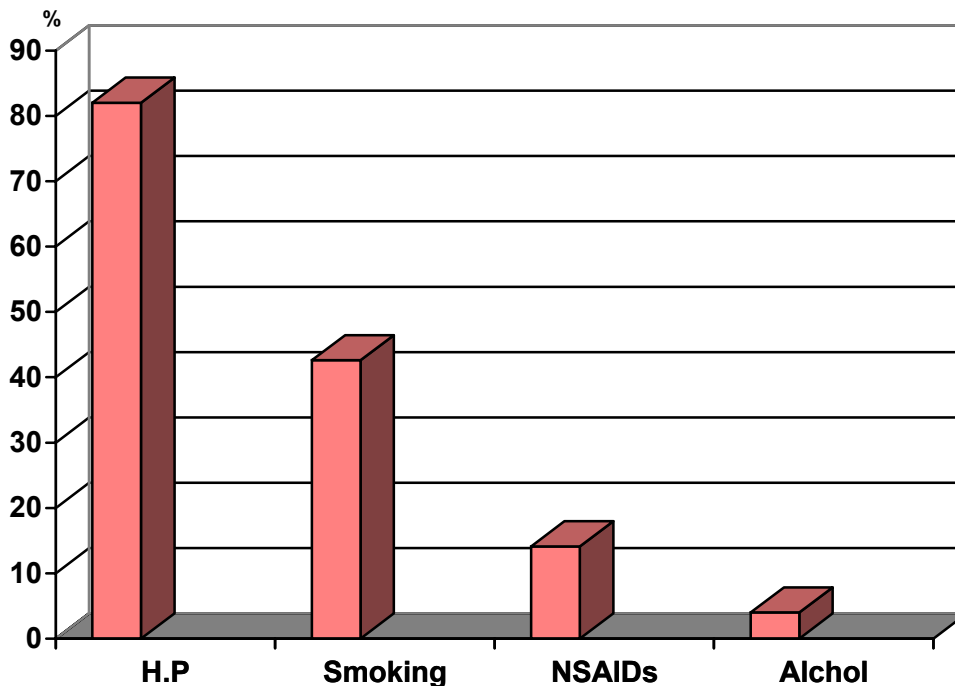


Figure 1. Risk factors of peptic ulcer disease.

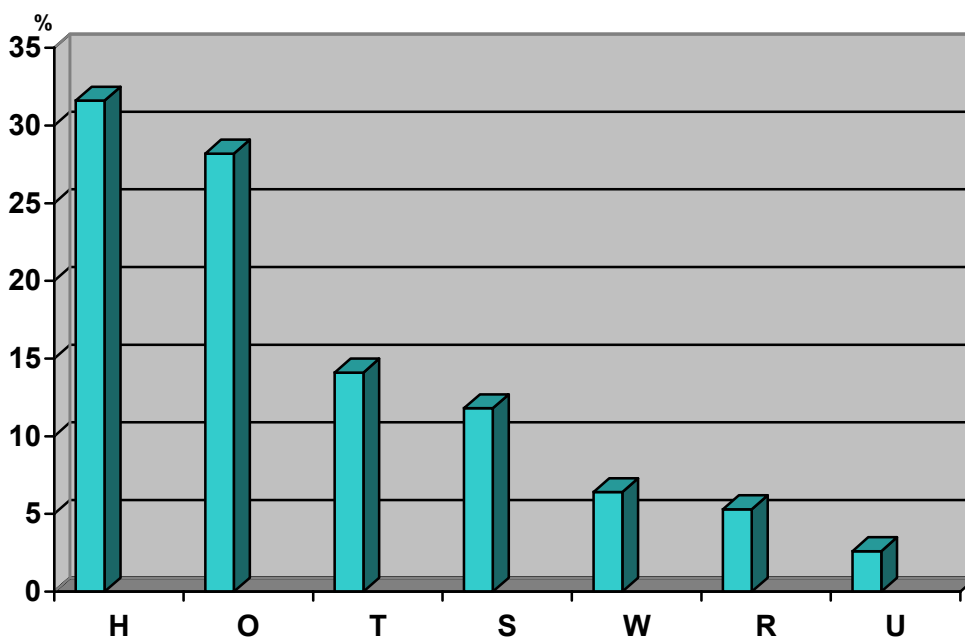


Figure 2. Professional groups in peptic ulcer disease.

Abbreviations correspond to the professions listed in Table-1

## Discussion

Peptic ulcer is a popular and serious disease all over the world. Five to ten percent of adult population has PU in lifetime. In H.P infected subjects, the lifetime prevalence appears to be 10% to 20% (2). Variation in the prevalence of peptic ulcer occurs between geographic regions. For example, DU was reported to be more common in southern versus northern regions of India (3). The annual prevalence of active combined gastric and duodenal ulcers in the United States in males and females is reported 1.8 %. In a large Japanese survey of male office workers above the age of 40, duodenal ulcer prevalence was reported 4.3 % at endoscopic surveys. In the mid-1950s , the male: female ratio for deaths due to DU was about 5:1 , but during the past decade this ratio was decreased to about 1.3:1 (1). The prevalence of peptic ulcer was shifted from being a disease predominant in males to one with a nearly comparable prevalence in both sexes. All over the world, duodenal ulcer prevalence and incidence are higher than stomach ulcer generally. In Turkey, DU is diagnosed five times more frequent than GU (4). In our study we found this ratio as 4:1, like in developing countries.

Factors which play a role in the pathogenesis of peptic ulcer are endogen (acid and pepsin hypersecretion , reduce in mucosal resistance etc.), exogen (HP, smoking, NSAID etc.), emotional stress and genetic predisposition (5). Most studies reveal a strong positive association between cigarette smoking and ulcer incidence, mortality, complications, recurrences, and delayed healing rates. The quantity of smoking is also important. In fact, large retrospective studies reported that cigarette smokers were about two fold more likely to have peptic ulcer than nonsmokers with a dose-response phenomenon.

The use of NSAID is an another important risk factor for elderly people especially. It is estimated that approximately 10 % patients receiving NSAID daily have active gastric ulcer. NSAID represent one of the major causes of life threatening complications such as upper gastrointestinal hemorrhage and perforation. In one study, the relative risk ratios for GU and DU in chronic NSAID users were about 45 and 8 fold greater, respectively (1). In our study, the prevalence of smoking was 42.6 % and the use of NSAID was 14 % in the patients. These results suggest that cigarette smoking may be an important factor in the etiopathogenesis of peptic ulcer disease in our region.

Alcohol, as a noxious agent causes gastric mucosal damage , stimulates acid secretion and increases serum gastrin levels. We found that the

prevalence of alcohol consumption was 4% in patients with peptic ulcer. This result is related to low frequency of alcohol consumption in our region.

HP pylori is one of the most common pathogens worldwide. Approximately sixty per cent of the world's population is infected by this bacteria which causes gastritis and peptic ulcer. It is also strongly associated with gastric adenocarcinoma and mucosa associated lymphoid tissue lymphoma. Possible routes of infection include either oral-oral or fecal-oral, iatrogenic spread with inadvertent use of unsterile pH probes and endoscopes and vectorial spreads by flies. The majority of individuals acquire HP early in life. An inverse relationship between socioeconomic status and prevalence of HP has been observed in most studies (6,7). In our study, H. pylori was detected in 82 % of peptic ulcer patients. This finding was similar to other prevalence rates (81-93%) reported in Turkey (4,8-12). In NSAID users H. pylori positivity was also at high percentage (75%).

In our study, professional status of peptic ulcer patients revealed that housewife and officer groups were the most frequent groups with peptic ulcer disease (28-31%). "Stress" factor may be related to the higher prevalence of PU in these profession groups beside H.P and cigarette smoking etc..

The mean age of patients was 42 and male: female ratio was 2:1 suggesting that in Van region peptic ulcer is a middle age group disease with male gender predominance .

The locations of ulcers were 80 % in the first part of the duodenum (bulbus) especially located at the anterior surface, and 20% in stomach. Seventeen percent of gastric ulcers with malign appearance were confirmed as adenocarcinoma by gastric biopsies. This finding prove the importance and high rate of stomach cancers mimicking benign stomach ulcers in endoscopic surveys. In fact , biopsy specimens are very important for diagnosis of stomach cancer , especially in suspected lesions.

In conclusion, PU disease seems an important medical and social health problem in patients attending to our department, related to HP infection, possibly smoking and stress factors in middle age and male gender particularly.

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