Introduction

Upper gastrointestinal tract (GIT) polyps are usually asymptomatic. However, they may cause symptoms such as dyspepsia, bleeding, anemia, abdominal pain and gastric outlet obstruction. During endoscopic procedures, they are usually observed at an incidence rate of 2-3%. Their incidence rate in general population is rather low at less than 1% (Feldman et al., 2010). The most frequent localization in the stomach appears to be the antrum (58.8%) (Yoon et al., 2006). Upper GIT polyps can be seen with synchronic or metachronic colon polyps (Hirota et al., 2006). The majority of gastric polyps (70-90%) are hyperplastic or fundic gland polyps. Hyperplastic and adenomatous polyps are more prevalent in areas where HP infection is common (Archimandritis et al., 1996; Morais et al., 2007). On the other hand, fundic gland polyps are more common in regions of HP eradication (Jalving et al., 2006; Carmack et al., 2009). The presence of H pylori infection is closely related to chronic gastritis which significantly increases the risk of developing peptic ulcer, gastric adenocarcinoma and gastric mucosa-associated lymphoid tissue lymphoma (Demirel et al., 2013).

Gastric adenomatous polyps have potential for malignancy. It was reported that about 11% of such polyps developed into carcinoma in situ within 4 years of follow-up (Feldman et al., 2010). After excision, the recurrence rate is 16% (Hirota et al., 2006).

The purpose of this study was to examine the relationships between demographic characteristics of patients with upper gastrointestinal polyps and localization, histopathological types, HP infection, as well as changes in gastric mucosa and the rate of malignant development, with reference to the current information found in the literature.

Materials and Methods

We conducted a retrospective analysis on the data regarding 59 patients with polyps [37 females and 22 males with a mean age of 66.79 years, (ranging from 35 to 89 years)] which were detected during routine upper gastrointestinal endoscopy (55,987 tests) performed at the endoscopy unit of Istanbul Education and Research Hospital between January 2006 and June 2012.

Results: A total of 66 upper gastrointestinal polyps from 59 patients were analyzed. The most common clinical symptom was dyspepsia, observed in 41 cases (69.5%). The localizations of the polyps were as follows: 29 in the antrum (43.9%), 15 in the corpus (22.7%), 11 in the cardia (16.7%), 3 in the fundus (4.54%), 3 in the second portion of the duodenum (4.54%), 2 in the bulb (3.03%) and 3 in the lower end of the esophagus (4.54%). Histopathological types of polyps included hyperplastic polyps (44) (66.7%), faveolar hyperplasia (8) (12.1%), fundic gland polyps (4) (6.06%), squamous cell polyps (4) (6.06%), hamartomatous polyps (3) (4.54%), and pyloric gland adenoma (3) (4.54%). Histopathological analysis of the gastric mucosa showed chronic atrophic gastritis in 30 cases (50.84%), HP infection in 33 cases (55.9%) and intestinal metaplasia in 19 cases (32.20%). In 3 cases with multiple polyps, adenocarcinoma was detected in hyperplastic polyps.

Conclusions: Among polypoid lesions of the upper gastrointestinal tract, the most common histological type is hyperplastic polyps. Generally, HP infection is associated with chronic atrophic gastritis and intestinal metaplasia. The incidence of adenocarcinoma tends to be higher in patients with multiple hyperplastic polyps.

Keywords: Upper gastrointestinal tract - polyps - gastroscopy - Turkey
Accounting for 80% of cases, hyperplastic polyps derive 
from the tissues lining the inner surface of the stomach, 
and they are not true neoplasms. There is no connection 
between these polyps and gastric carcinoma. Further 
endoscopic monitoring is not indicated in hyperplastic 
polyps. However, hyperplastic polyps are more likely 
to coexist with atrophic gastritis, which is generally 
considered to have precancerous potential. Approximately 
10% of adenomatous polyps contains malignant foci 
called adenocarcinoma. In addition, 20% of the patients 
with benign adenomatous polyps have been reported to 
have a malignant cancer in another part of their stomach. 
The incidence of cancer in adenomatous polyps tends to 
be higher as the size of the polyp increases. Pedunculated 
lesions smaller than 2 cm in diameter are not usually 
malignant. Roughly 10% of the benign adenomatous 
polyps may show malignant transformation therefore 
endoscopic monitoring of patients is recommended 
after these polyps have been removed by polypectomy 
(Kokkola et al., 1998; Oberhuber and Stolte, 2000; 
Mansour-Ghanaei et al., 2013).

The incidence of polyps and histopathological types 
varies between geographical regions. A retrospective 
study examining gastric polyps reported that patients 
diagnosed with gastric polyps ranged from 22 to 87 years 
of age, while patients over the age of 60 had an increased 
likelihood of multiple polyps. In this study, the most 
common type of polyps were hyperplastic polyps (70%) 
(Archimandritis et al., 1996).

Hyperplastic polyps are usually associated with 
HP infection and atrophic gastritis. Hyperplastic and 
adenomatous polyps are known to be more prevalent in 
geographical regions where HP infection is common, 
as compared with fundic gland polyps (Morais et al., 2007). HP infection was found to be protective against 
the development of fundic gland polyps. Patients with 
fundic gland polyps were reported to have a low incidence 
rate of HP infection (Carmack et al. 2009). There are also 
studies showing that HP eradication therapy may lead to 
regression of hyperplastic polyps (Ljubicic et al.,1999; 
Ohkusa et al., 1998). In our study, 39.02% of the patients 
with hyperplastic polyps were diagnosed with intestinal 
metaplasia. HP incidence was found to be significantly 
higher in patients with hyperplastic polyps than in 
those with fundic gland polyps. Also three patients had 

The upper GIT polyps were located in the antrum in 29 
patients (43.93%), corpus in 15 patients (22.72%), cardia 
in 11 (16.66%), fundus in 3 (4.54%), second portion of the 
duodenum in 3 (4.54%), bulbous in 3 (3.03%) and lower 
end of esophagus in 3 patients (4.54%). In 7 patients 
(11.86%), multiple polyps were present. Adenocarcinoma 
was detected in three of the patients with multiple polyps.

In cases with fundic gland polyps, no intestinal 
metaplasia was detected, while this type was more 
common in older age groups. 39.02% of the patients 
with hyperplastic polyps had intestinal metaplasia. 
HP incidence was significantly higher in patients with 
hyperplastic polyps than in those with fundic gland polyps. 
In 56.09% of cases with hyperplastic polyposis, chronic 
atrophic gastritis was present. In 3 patients diagnosed 
with neuroendocrine neoplasia, chronic atrophic gastritis 
and intestinal metaplasia were observed in the stomach. 
However, they had no HP infection.

The demographic data of the patients with polyps, 
histological types, gastric mucosa and their relationship 
with HP infection are summarized in Table 1.

Table 1. The Demographic Data of the Patients with Polyps and Histological Types

| Age (N: 41) | Gender Female/Male (N: 2) | Single / multiple polyp (N: 4) | Hp prevalence n(%) (N: 1) | Intestinal metaplasia n(%) (N: 1) | Atropic gastritis n(%) (N: 1) |
|------------|---------------------------|-------------------------------|--------------------------|-------------------------------|-----------------------------|
| 67.2       | 24 / 17                   | 1/1                           | 0 (0)                    | 0 (0)                         | 23 (56.09)                  |
| 55         | 3/1                       | 3/1                           | 4 (68.29)                | 4 (68.29)                     |                             |
| 70.66      | 1/0                       | 1/0                           | 0 (0)                    | 0 (0)                         |                             |
| 76         | 4/1                       | 4/1                           | 0 (0)                    | 0 (0)                         |                             |
| 60.8       | 2 (0)                     | 2 (0)                         | 0 (0)                    | 0 (0)                         |                             |
| 73         | 1/0                       | 1/0                           | 0 (0)                    | 0 (0)                         |                             |
| 82         | 3 (0)                     | 3 (0)                         | 0 (0)                    | 0 (0)                         |                             |
| 61         | 3 (0)                     | 3 (0)                         | 0 (0)                    | 0 (0)                         |                             |


Discussion

Gastric polyps are histologically classified as 
hyperplastic, adenomatous or inflammatory polyps. The incidence of gastric polyps detected with endoscopic 
procedures has been reported to range from 2 to 6% 
(Carmack et al. 2009; Mansour-Ghanaei et al., 2012).
Accounting for 80% of cases, hyperplastic polyps derive
noroendocrine neoplasia. In conclusion, hyperplastic polyps are the most common polyps seen in the upper gastrointestinal tract. In cases with hyperplastic polyps, the incidence of HP infection and concomitant chronic atrophic gastritis and intestinal metaplasia is higher. Foveolar hyperplasia is the second most common and can be regarded as a precursor of hyperplastic polyps. Multiple polyps are more prevalent in patients over age 60, with an increased cancer rate.

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