Gastric Polyps in a Digestive Endoscopy Center in Dakar

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Abstract

Introduction: The gastric polyp is a tumor protruding into the gastric lumen. It is asymptomatic most often with a risk of malignant degeneration closely related to its histological nature. These data are very rare in Africa. Objectives: Reporting the frequency and endoscopic and histological characteristics of gastric polyps in the digestive endoscopy center of Aristide Le Dantec hospital in Dakar. Patients and methods: This was a retrospective study carried out in the digestive endoscopy center of Aristide Le Dantec Hospital in Dakar from January 2012 to December 2016. We have included all patients with one or more gastric polyps coupled with histological findings available. Results: There were 60 patients with gastric polyps, hence a prevalence of 0.8%. We included 37 patients. Their mean age was 46 years [21 years - 75 years]. The sex-ratio was 0.48. Epigastralgia was the most frequent endoscopic indication (51.3%). The polyp was unique in 26 patients (70.3%) with an average size of 6.87 mm [2 - 15 mm]. Polyps were sessile in 31 cases (83.8%) and pediculate in 6 cases (16.2%). They were most often in the antrum (51.4%). Antral erosions (13.5%) and fundic atrophy (13.5%) were the main associated endoscopic lesions. These were hyperplastic polyps in 27% of cases and adenoma in 16.2% of cases. Chronic atrophic gastritis (10.8%) and intestinal metaplasia (10.8%) were the main histological lesions associated with polyps. Helicobacter pylori (Hp) were present in 17 patients (45.9%). Conclusion: The prevalence of gastric polyps is 0.8% in the endoscopy center of Aristide Le Dantec hospital. They are usually hyperplastic or adenomatous.

Keywords

Gastric Polyps, Gastric Hyperplastic Polyps, Gastric Adenoma, Sub-Saharan Africa
1. Introduction

The gastric polyp is a tumor protruding into the gastric lumen independently of its histological nature.

It is mostly asymptomatic, of fortuitous discovery during an upper digestive endoscopy.

The risk of malignant degeneration of gastric polyps is closely related to their histological nature. It is more important for adenomas.

In Western countries, the frequency of gastric polyps varies between 2% and 6% [1] [2]. In sub-Saharan Africa and Senegal in particular, the prevalence of gastric polyps is poorly understood due to the scarcity of published data.

The treatment of these polyps varies according to their symptomatic character or not but also depending on their histological nature.

We report the frequency and endoscopic and histological characteristics of gastric polyps in the digestive endoscopy center of Aristide Le Dantec hospital in Dakar.

2. Patients and Methods

We carried out a retrospective study in the endoscopy center of Aristide Le Dantec hospital in Dakar during the period from 1 January 2012 to 31 December 2016. Our study population consisted of all patients referred to the Center for an upper digestive endoscopy, regardless of indication. We included all patients who presented one or more gastric polyps.

Biopsies or excisional biopsies with a biopsy forceps were performed in all patients according to the size and number of polyps. Biopsies were also done on the rest of the gastric mucosa in search of associated lesions.

Patients whose histological history was not available were excluded from the study.

In the upper gastrointestinal endoscopy registries, we collected and analyzed data on age, sex, indications for the examination, and endoscopic and histological findings.

3. Results

3.1. Epidemiologic Aspects

During the study period, 7152 upper digestive endoscopies were performed. The examination found one or more polyps in 60 patients, hence a prevalence of 0.8%.

Twenty-three patients were excluded from the study due to the unavailability of histological reports.

Thus, we included 37 patients. The mean age was 46 years [21 years - 75 years]. There were 25 women and 12 men, a sex ratio of 0.48.
(51.3%). Five patients (13.5%) were referred to the center for polypectomy (see Table 1).

3.3. Endoscopic Aspects

The endoscopic examination found a single polyp in 26 patients (70.3%), 2 to 10 polyps in 6 patients (16.2%) and more than 10 polyps in 5 patients (13.5%).

The average size of the polyps was 6.87 mm [2 - 15 mm]. It was not specified in seven cases (16.2%). It was less than 10 mm in 56.7% of the cases (Figure 1).

Polyps were sessile in 31 cases (83.8%) and pediculate in 6 cases (16.2%). They are located in the antrum in 19 patients (51.4%), in the fundus in 16 patients (43.2%), and in the antrum and the fundus in 2 patients (5.4%).

They were associated with other lesions in 22 patients (Figure 2). The most

<table>
<thead>
<tr>
<th>Indications</th>
<th>Numbers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epigastralgia</td>
<td>19</td>
<td>51.3</td>
</tr>
<tr>
<td>Polypectomy</td>
<td>5</td>
<td>13.5</td>
</tr>
<tr>
<td>Control of polyt</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>Control of hemorrhagic GU</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>PH diagnosis</td>
<td>3</td>
<td>8.1</td>
</tr>
<tr>
<td>PVS dilation</td>
<td>2</td>
<td>5.4</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>3</td>
<td>8.1</td>
</tr>
<tr>
<td>Hiccoughs</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>LEV</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>Biermer’s disease</td>
<td>1</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Legend: GU: Gastric ulcer; PH: Portal hypertension; PVS: Plummer Vinson Syndrome; LEV: Ligature of esophageal varices.

Figure 1. Repartition of polyps by size.
frequent lesions were the antral erosions in 5 cases (13.5%) and the fundic atrophy in 5 cases (13.5%).

3.4. Histologic Aspects

Histological examination was in favor of chronic gastritis known as chronic pseudo-polypoid gastritis in 40.5% of cases, hyperplastic polyps in 27% of cases, adenoma in 16.2% of cases (Figure 3).

Figure 2. Repartition of the different associated endoscopic lesions. **Legend:** PHG: Portal hypertensive gastropathy; HH: Hiatal hernia; PVS: Plummer-Vinson Syndrome; GV: gastric varices; OV: esophageal varices.

![Figure 2](image)

Figure 3. Repartition of polyps by histologic type.
Chronic atrophic gastritis (10.8%) and intestinal metaplasia (10.8%) were the main associated histological lesions (Table 2).

*Helicobacter pylori (Hp)* was present in 17 patients (45.9%).

4. Discussion

The prevalence of gastric polyps in the digestive endoscopy center of Aristide Le Dantec University Hospital in Dakar was 0.8%. A study carried out in the same center in 1994 over a period of 4 years found a prevalence of 0.4% [3].

In Africa, the prevalence varies between 0.93% and 3% [4] [5] [6]. It is 2.4% in Portugal [7], 3.75% and 7.72% in two American studies [2] [8] and 0.58% in Brazil [9]. In China, Endian *et al.* estimated it at 3.1% [10].

Thus, there is great variability in the prevalence of gastric polyps in the world; this prevalence appears to be higher in the northern countries. This disparity could be related to the specificities of each study population, the study methodology and the level of performance of the technical platform.

The mean age of patients was 46 years. The average age of discovery of gastric polyps is variable in the literature. Thus, it was 54.15 years in Morocco [6] and 54.7 years in China [11], whereas in Portugal and Spain it was 60.4 years and 64.9 years respectively [7] [12]. However, it is assumed that the frequency of polyps increases with age, especially from age 40 [2] [9] [11] [13] [14] [15].

Epigastralgia was the main indication of upper digestive endoscopy (51.3%). Their frequency was 33.8% in Tunisia [6]. In Portugal and China, dyspepsia was the predominant indication, with rates of 41.5% and 37.3%, respectively [7] [10].

Gastric polyps are predominantly asymptomatic. They are most often discovered accidentally during an upper digestive endoscopy. In our study, polyps were unique in the majority of patients (70.3%) and averaged 6.87 mm. Their size was less than 10 mm in 56.7% of the cases.

Polyps occur most often in a sporadic context as shown by several studies [6] [8] [9] [16]. The greatest frequency of small polyps is also reported in the literature [7] [9] [12] [17].

**Table 2.** Associated histologic lesions by polyp types.

<table>
<thead>
<tr>
<th>Types of polyps</th>
<th>Associated histologic lesions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Adenomatous Polyps</strong></td>
<td>1 atrophic gastritis (16.7%)</td>
</tr>
<tr>
<td></td>
<td>1 <em>Hp</em> infection (16.7%)</td>
</tr>
<tr>
<td><strong>Glandular Cystic Polyps</strong></td>
<td>No associated histological lesions</td>
</tr>
<tr>
<td><strong>Hyperplastic polyps</strong></td>
<td>4 atrophic gastritis (40%)</td>
</tr>
<tr>
<td></td>
<td>3 <em>Hp</em> infections (30%)</td>
</tr>
<tr>
<td></td>
<td>1 intestinal metaplasia (10%)</td>
</tr>
<tr>
<td><strong>Inflammatory polyps</strong></td>
<td>1 low grade dysplasia (33.3%)</td>
</tr>
<tr>
<td><strong>Chronic pseudo-polypoid gastritis</strong></td>
<td>2 low-grade dysplasia (13.3%)</td>
</tr>
<tr>
<td></td>
<td>6 intestinal metaplasia (40%)</td>
</tr>
<tr>
<td></td>
<td>13 <em>Hp</em> infections (86.7%)</td>
</tr>
</tbody>
</table>
Hyperplastic polyps were the most common histological type (27%). They were associated with alterations in the gastric mucosa with atrophic gastritis in 40% of cases and intestinal metaplasia in 10% of cases. There was an Hp infection in 30% of cases.

Indeed, it is admitted that hyperplastic polyps develop most commonly within an inflammatory gastric mucosa infected with Hp \cite{18} \cite{19} \cite{20}.

As atrophy of the gastric mucosa is likely to lead to negativity in the histological investigation of Hp, a former infection cannot be ruled out.

These alterations of the gastric mucosa, mostly secondary to infection with Hp are risk factors for gastric adenocarcinoma and an indication for the eradication of Hp \cite{21}.

Adenomatous polyps were present in 6 patients (16.2%). They were associated with atrophic antral gastritis in 1 patient and an Hp in 1 patient as well.

Adenomas are precancerous lesions that must be resected. Their association with chronic gastritis is described in the literature \cite{6} \cite{16} \cite{22}.

The role of Hp infection in the onset of gastric adenomas has been studied by several authors who have shown an increase in Hp infection in patients with gastric adenomas and a disappearance or decrease in the size of adenomas after eradication of Hp \cite{23} \cite{24}.

In our study, a single patient with an adenoma was a carrier of Hp, which did not allow it to be incriminated in the genesis of gastric adenomas.

5. Conclusions

Gastric polyps are heterogeneous lesions. Depending on their nature, they may become potentially malignant. Their prevalence was 0.8% in the digestive endoscopy center of Aristide le Dantec hospital in Dakar. Hyperplastic and adenomatous polyps were the most frequent histological types. They were sometimes associated with chronic atrophic gastritis and/or Hp infection that are recognized as pre-neoplastic states.

Despite the relatively low incidence of gastric cancer in sub-Saharan Africa, mortality remains high due to delayed diagnosis. Prevention is based on the excision of polyps, especially adenomas, which constitute pre-cancerous lesions and regular endoscopic follow up.

The influence of Hp infection on the natural history of certain polyps or the associated mucosal lesions it induces requires its investigation and eventual eradication in all cases to reduce the risk of cancer or recurrence after excision.

Conflict of Interest

none.

References


