

Granulomatous Gastritis: Clinical and Pathological Features

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Abstract

The final diagnosis of granulomatous gastritis is based on morphological findings and clinical and laboratory data. To evaluate the clinical features and to determine the etiologies of GG, biopsies from 14 patients diagnosed as having granulomatous gastritis were reviewed. more than half are associated with Crohn's disease. In the remaining patients, the final diagnosis was tuberculosis, HP, sarcoidosis, and lichen planus. The granulomas were mainly found in the antrum and were related to damage within a pit in which the *H. pylori* were commonly observed.

Keywords: *Granulomatous Gastritis; Crohn's Disease; Tuberculosis; Helicobacter pylori; Sarcoidosis*

Abbreviations

GG: Granulomatous Gastritis; HP: *Helicobacter pylori*

Introduction

Granulomatous gastritis is an infrequent lesion characterized by the presence of granulomas in the gastric mucosa. Etiopathogenic diagnosis is obtained only by combining morphological examination with clinical and laboratory investigations. The purpose of our study is to evaluate the clinical features and to determine the etiologies of GG.

Materials and Methods

This is a retrospective study of all cases of GG noted in the histopathological examination of gastric biopsies, collected between 2012 and 2016 in the department of gastroenterology in university hospital of Monastir There was no exclusion criteria for this study. The clinical, endoscopic, histological characteristics as well as the associated lesions and the etiology retained of GG were noted. Ethics committee approval was not required for this study.

Results

Fourteen cases of GG included, 6 men (42.9%) and 8 women (57.1%) with an average age of 39 (21 - 65 years). The indication for endoscopy was dominated by epigastralgia in 6 cases (42.9%), chronic diarrhea in 4 cases (28.6%), anemia in 2 cases (14.3%), vomiting in 1 case (7.1%). The discovery of GG was fortuitous in 1 case. Oesogastroduodenal fibroscopy was abnormal in the majority of cases (92.8%), it showed antral gastropathy in 12 cases (erythematous gastritis in 6 cases and nodular gastritis in 6 cases). the granuloma was unique in 4 cases (28.6%) and multiple in 10 cases (71.4%), mainly found in the antrum (57,14% antrum only, 35,7% antrum and corpus, 7% corpus). Associated chronic gastritis was noted in 13 cases (92.9%). Regarding the etiology, eight of our patients (57, 1%) had Crohn's disease and two, gastric tuberculosis (14.3%). In two cases, *Helicobacter Pylori* was the cause of gastritis granulomatosis. In the remaining patients, the final diagnosis was sarcoidosis (n = 1), lichen planus (n = 1). Six patients (42.9%) had HP positive histology status.

Discussion

GG is an uncommon histological finding present in 0.08e0.35% of gastric biopsy samples [1,2]. Detailed analysis of the morphological features of the granulomas together with associated mucosal changes could generate more information on aetiology and pathogenesis. Clinical features of gastritis granulomatous are not specific. Even in a context of a systemic disease, specific symptoms related to gastric

involvement may be minor. In our study The reasons for endoscopy were diverse and not specific, including epigastralgia (42.9%), chronic diarrhea (28.6%), anaemia (14.3%). Granulomas were mainly found in the antrum in our series (57,14%). This is in agreement with previous reports, where the antrum was the site of granuloma formation in 75% and 78% of subjects [2]. However, selected biopsies based on endoscopic features may miss granulomas if only abnormal-appearing mucosa is biopsied. Granulomas may be found at biopsy in endoscopically normal-appearing mucosa in Crohn's disease [3] and sarcoidosis [4]. In our series, one patient whose terminal diagnosis was Crohn's disease had a normal endoscopic appearance. The most likely causes vary by geography and ethnicity. Most cases of granulomatous gastritis in developed countries are noninfectious with the most common causes being Crohn disease and sarcoidosis [5]. In contrast, in developing countries, including ours, infectious diseases, particularly tuberculosis, are the most common cause of granulomatous gastritis [6]. In our series, tuberculosis accounted for only 14% of our patients and Crohn's disease was the most frequent cause of granulomatous gastritis, this could be explained by a sampling error. In our study, *H. pylori* infection was present in Six patients (42.9%). This is in agreement with the reported incidence of *H. pylori* infection in GG, which ranges from 17% to 92% [2]. Controversy exists as to the role of *H. pylori* as a causative factor in GG. The recent description of granulomatous gastritis associated with HP is of interest and raises questions Most supportive evidence is found in case reports [2,7], where *H. pylori* is found in association with GG, and eradication of *H. pylori* is accompanied by resolution of GG [8]. However, GG has persisted for over a year after *H. pylori* eradication, raising the question of cause and effect [9].

The finding of granulomas in proximity to damaged gastric pits where *H. pylori* resides has been suggested as potential evidence for its role in some cases of GG [9]. These reports demonstrated that the mucosa surrounding granulomas in GG exhibits typical histological features of *H. pylori* gastritis, that features suggestive of other etiologies are absent, and that *H. pylori* eradication therapy can result in GG resolution.

Evidence against *H. pylori* as a causative agent in GG is found in larger studies. Ectors., *et al.* [9] found *H. pylori* in 92% of all biopsy samples with GG, but they did not feel that a simple causal relationship was likely because of the high incidence of *H. pylori* in the general population and the low proportion of GG in patients with chronic gastritis. Shapiro., *et al.* [8] reported a lower incidence of *H. pylori* in GG (17%); they concluded that GG per se was not associated with *H. pylori* and were unable to conclusively associate *H. pylori* with granuloma formation. Our results are in agreement with those of Shapiro., *et al.* that *H. pylori* is not a common cause of GG. In our series, after an exhaustive etiological investigation, GG was resolved by HP eradication therapy in two patients. This was confirmed by endoscopic control and biopsies two months after eradication of HP without subsequent recurrence of the initial symptomatology, which suggest that HP can be causal in the pathogenesis of GG.

There are several limitations to our study. We performed a retrospective study, which lacks the power of prospectively collecting data in a systematic manner. Also, we report on a small number of patients with GG however, this is a rare condition limiting the number of potential subjects.

Conclusion

In our series, Crohn's disease and tuberculosis dominate the etiologies of granulomatous gastritis. An association between *H. pylori* and granulomatous gastritis cannot be excluded and the confirmation of this link is based on the disappearance of this histological lesion after the eradication of this bacterium.

Conflict of Interest

We declare that there is no conflict of interest.

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