

Case Report

Gastric Inflammatory Fibroid Polyp: Report of a Case

Naorem Gopendro Singh¹, Mirza Kahvic¹, Rifat Mannan¹, Anwar Al Enezi²

1. Dept. of Pathology, Al Jahra Hospital. Kuwait

2. Department of Medicine, Al Jahra Hospital. Kuwait

ABSTRACT

The gastric inflammatory fibroid polyp (IFP) is a rare benign tumor of unknown etiology that is localized mainly in the antrum and presents endoscopically as submucosal mass. The lesion manifests as abdominal pain, weight loss, bleeding, dyspeptic symptoms, and iron deficiency anemia. We report a case of gastric IFP presented with microcytic anaemia, dyspepsia, melena and weight loss. Endoscopy revealed presence of a sessile gastric antral polyp. A clinical diagnosis of gastric malignant polyp was suspected. Microscopic examination revealed the presence of mononuclear fusiform fibroblast like cells, arranged in fascicles and whorl formation around vessels, in an inflammatory background rich in eosinophils. The fusiform cells appeared uniform and had abundant cytoplasm with pale spindle shaped nuclei. We highlight the case because of its rarity amongst the different types of gastrointestinal polyps and its unusual presentation like anaemia and weight loss with clinical suspicion of malignant gastric polyp.

Key words: Stomach, Polyp, Kuwait

Introduction

Inflammatory fibroid polyp (IFP) is a relatively rare disorder thought to be clinically and histologically benign, and was first described as “polypoid fibroma” in 1920 by Konjetzny and as eosinophilic granuloma by Vanek in 1949 (1).

It is an uncommon non-neoplastic proliferating lesion, which can develop in various part of the gastro-intestinal tract, most commonly in the gastric antrum, followed by the small bowel (2). Gastric IFP often appear as an incidental finding on examination of the upper digestive tract. When symptomatic this lesion is associated with abdominal pain, weight loss, bleeding, dyspeptic symptoms,

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Address communications to: Dr Naorem Gopendro Singh, Department of Pathology, Al Jahra Hospital. Kuwait

Email: gopen71@yahoo.co.in

iron deficiency anemia, and intussusception. Their size determines whether they are symptomatic or not. Several reports have suggested the relationship between gastric IFP and *Helicobacter pylori*. We report this case because of its rarity and its clinical presentation that mimic malignancy and discuss its etiology, treatment modalities, and possible complications.

Case Report

A 72-year-old male presented to Medical Outpatient Department with complaints of epigastric pain, nausea and vomiting, weight loss and passing of dark stool for 3-weeks duration. The epigastric pain was burning in nature. On examination, the patient was anemic. The patient is a known case of diabetes mellitus. His lab investigation revealed hemoglobin of 109 gm per liter. Peripheral smear examination was reported to have microcytic hypochromic anemia. Biochemistry revealed normal parameters except for high fasting glucose level. On endoscopic examination, there was grade B oesophagitis with hiatus hernia. A sessile polypoidal mass measuring 1.2x1x1 cm with surface ulceration was identified in the prepyloric area of the stomach. A clinical diagnosis of suspected malignant gastric polyp was made and excision biopsy of the mass was carried out.

Histopathological examination revealed a submucosal polypoidal lesion (Fig. 1), composed of fibroblastic stroma with prominent network of thick wall capillary vessels. The fibroblasts like cells were arranged in fascicles and in whorl formation around vessels, in an inflammatory background. The cells appeared uniform, had abundant cytoplasm with bland looking spindle shaped nuclei (Fig. 2). The inflammatory cells were predominantly composed of eosinophils and lymphocytes. Immunohistochemistry displayed the lesion to be positive for vimentin and CD34 (Fig. 3) and negative for CD68, CD117, smooth muscle actin and S100 protein. Special stain for *H. pylori* was negative. A diagnosis of gastric IFP was conferred.

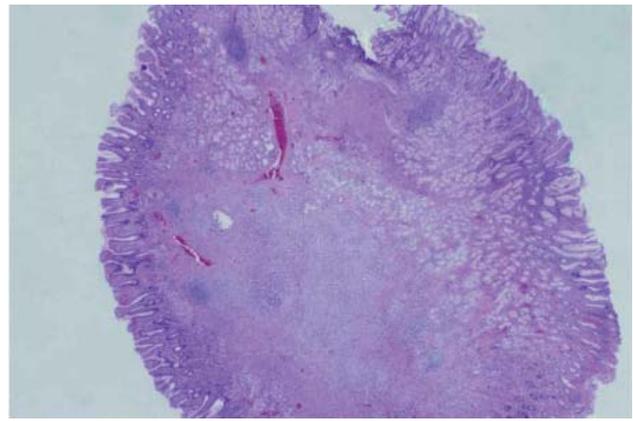


Fig. 1: Photomicrograph showing the antral gastric mucosa and submucosal inflammatory fibroid polyp (hematoxylin & eosin $\times 100$)

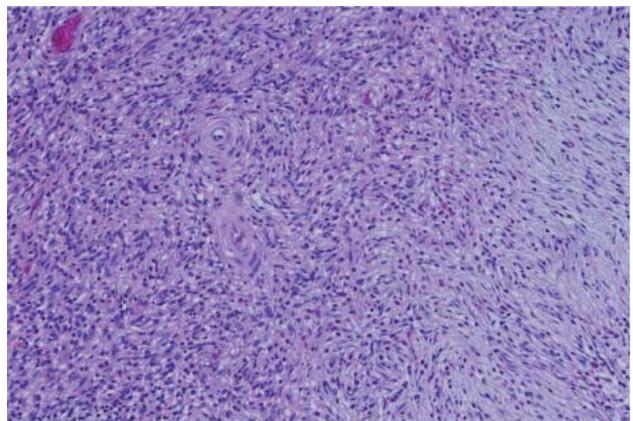


Fig. 2: Photomicrograph showing proliferating fibroblasts like cells arranged around thick walled vessels. The cells are uniform, have abundant cytoplasm with bland spindle shaped nuclei. Background reveals scattered inflammatory cells predominantly of eosinophils (hematoxylin & eosin $\times 400$)

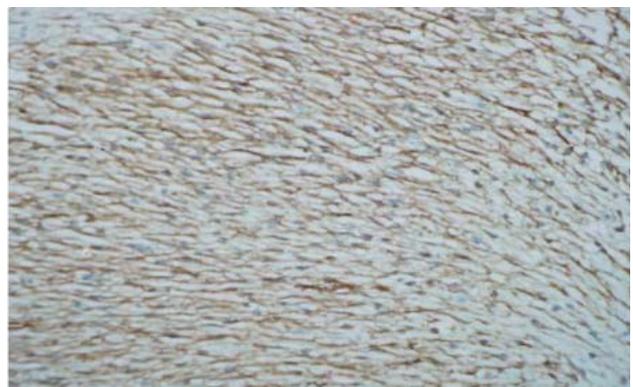


Fig. 3: The proliferating fibroblast like cells of inflammatory fibroid polyp showing reactivity to CD34 (avidin biotin peroxidase $\times 400$)

Discussion

Inflammatory fibroid polyp is an uncommon non-neoplastic proliferating lesion of the gastro-intestinal tract (1). Inflammatory fibroid polyp is most commonly found in the stomach mainly in gastric antrum and the ileum, but can occur throughout the gastro-intestinal tract of adult and children (age ranges from 2-90 years) (2). In a recent study by Susanne and colleague in which a study of 1.2 lac esophagogastroduodenoscopy procedures, the prevalence of gastric polyps was 6.35% of which 77% were fundic gland polyps, 17% were hyperplastic polyp/polypoid foveolar hyperplasia, 0.69% were adenoma and 0.1% were IFP (3).

Etiological theories such as tumor, allergy, and inflammation have been proposed. However the inflammatory changes, is currently dominant and IFP is considered non-neoplastic. An excessive reparative reaction of local tissue to injury of the gastrointestinal mucosa has been suggested as the pathogenesis of IFP (4). Recently Nishiyama *et al.* (5) reported a case of IFP that morphologically changed after *H. pylori* eradication therapy (5). They claimed that factors derived from gastric epithelial cells in response to *H. pylori* infection such as inflammatory cytokines and growth factors, might affect the growth of IFP (5). Our case was negative for *H. pylori* stain.

Inflammatory fibroid polyps are usually asymptomatic. When symptomatic, they present with abdominal pain, weight loss, ulcer-like symptoms, overt gastro-intestinal bleeding, or iron deficiency anemia (6). Our case presented in the similar fashion as noted above. The size the polyp is the main determiner for its varied clinical presentation. They are usually less than 4 cm in diameter and appear to arise from the submucosa. They may show surface ulceration.

Microscopically, IFP can be mistaken for a variety of lesions, from granulation tissue to high-grade sarcoma. In the differential diagnosis, it is important to include eosinophilic gastro-enteritis, gastro-intestinal stromal tumor, inflammatory pseudo-tumor, haemangiopericytoma and haemangiopericytoma (7). Histopathologically IFP is

characterized by the involvement of mainly the lamina propria and submucosa, hyperplasia of the connective tissue elements such as fibroblast, fibrocytes, and collagen tissue, infiltration of inflammatory cells such as eosinophils, lymphocytes, and plasma cells, prominence of the small vessels like arterioles and capillaries and the concentric arrangement of fibrous connective tissue in an onionskin pattern. The present case documented almost all the mentioned features. In some IFPs, eosinophils are particularly abundant, but it is now clear that this feature is not associated with peripheral blood eosinophilia and certainly does not reflect an allergic pathogenesis. There is no evidence to support a possible association between IFPs and eosinophilic enteritis. Immunohistochemical analysis demonstrates diffuse positivity for vimentin and variable reactivity for CD34, CD68, smooth muscle actin, desmin, CD117, and S100 protein. Factor VIII and cytokeratin are usually negative (8). This case documented reactivity to vimentin and CD34 only.

We should be aware of complication of adenocarcinoma or adenoma with gastric IFP. Mori *et al.* (9) described that 8% of their 50 patients with gastric IFP were accompanied by an adenocarcinoma or adenoma in the same area (9). Kolodziejczyk *et al.* (8) reported 3 cases with gastric IFP in which a carcinoma was overlying or immediately adjacent to the IFP (8). Thus in a patient having gastric IFP, one should be cautious not to overlook for a possible associated gastric neoplasm during endoscopic examination. In our case, there was no associated neoplasm in the stomach.

Gastric IFP is seldom resected by endoscopic resection or surgery. Some authors have reported regression of the size of the polyp with drugs that eradicated *H. pylori* (4, 5). However they are often treated with endoscopic mucosal dissection if the lesion is accompanied by malignant neoplasm or is increasing in size (10). In this case, the polyp was excised endoscopically.

To conclude IFP is a benign lesion that are rarely encountered in the gastrointestinal tract. We should be aware of this unusual benign polyp that sometimes manifest as malena and weight loss-raising suspicion for the malignancy.

Acknowledgements

The authors declare that they have no conflicts of interest.

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