Table 1. Eosinophil counts per microliter

	1st hospital day	Later during hospital stay
Case 1	241.8	473 (8th day)
Case 2	191.1	742.5 (5th day)
Case 3	574	1,113 (4th day)

The eosinophil counts were not enhanced on the 1st day, but increased later.

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Inflammatory Fibroid Polyp or Vanek's Tumour

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Key Words

Gastric inflammatory fibroid polyp · Vanek's tumour · Gastric outlet obstruction · Projectile vomiting

Abstract

We report a case of a 65-year-old woman who presented with recurrent episodes of severe, postprandial abdominal pain followed by projectile vomiting. Gastroscopy revealed a large polyp in the prepyloric region. During peristalsis, the polyp was repeatedly 'passing' through the pylorus into the duodenal bulb, hence obstructing the lumen. The polyp was eventually removed in a piecemeal fashion. Histopathologic examination revealed an inflammatory fibroid polyp (known also as Vanek's tumour). A brief review on inflammatory fibroid polyps follows.

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Introduction

Inflammatory fibroid polyp (also known as Vanek's tumour) is an uncommon, non-neoplastic proliferating lesion which can develop in various parts of the gastro-intestinal tract but most commonly in the gastric antrum and the ileum. The majorities of Vanek's lesions are asymptomatic and discovered as incidental findings during endoscopy performed for unrelated reasons. When symptomatic, Vanek's tumours are usually associated with abdominal pain, weight loss, bleeding, dyspeptic symptoms, iron deficiency anaemia and intussusception. Their size determines whether they are symptomatic or not. Macroscopically, inflammatory fibroid polyps appear as sessile polypoid lesions, usually less than 4 cm in diameter. Histologically, they are mainly confined in the submucosa, characterized by vascular and fibroblastic proliferation together with an inflammatory response (usually dominated by eosinophils). Endoscopic excision is the treatment of choice as the prognosis is overall benign.

Case Report

A 65-year-old woman was admitted with recurrent episodes of postprandial, projectile vomiting and severe epigastric pain over a period of a few months. Her clinical examination was unremarkable and routine blood tests were within normal limits. Gastroscopy revealed a large (3 × 5 cm), polypoid lesion in the prepyloric region. Figure 1 shows the lesion protruding through the pylorus into the duodenal bulb causing gastric outlet obstruction.

Fig. 1. Vanek's tumour in the prepyloric region.

Fig. 2. Microscopically, whorls of spindle cells around blood vessels and heavy inflammatory infiltrate rich in eosinophils.

tion. During the procedure, the polyp was removed in a piecemeal fashion. Histopathologic examination of the polyp revealed a fibroblastic stroma, with extensive thick-walled capillary vessels, spindle cells and an inflammatory infiltration (mostly eosinophils) within the submucosa (fig. 2). These findings are considered pathognomonic for the diagnosis of inflammatory fibroid polyp (Vanek's tumour). *Helicobacter pylori* was detected on the gastric surface. The patient was commenced on eradication therapy for 10 days. Six months later, the patient was asymptomatic and had a normal gastroscopy.

Discussion

Inflammatory fibroid polyp is an uncommon non-neoplastic, proliferating lesion of the gastro-intestinal tract, initially described as eosinophilic submucosal granuloma by Vanek in 1949 [1]. Vanek suggested that the tumours have an allergic aetiology due to the presence of eosinophils. Vanek's tumours are most commonly found in the stomach (gastric antrum) and the ileum, but can occur throughout the gastro-intestinal tract of adults and children (wide age range: 2–90 years). The reported series indicate a slight male predominance [2]. They are usually asymptomatic and likely to be incidental findings during endoscopies performed for unrelated reasons. When symptomatic, they present with abdominal pain, weight loss, ulcer-like symptoms, overt gastro-intestinal bleeding or iron deficiency anaemia [3] and intussusception [4–6]. Their size is the main determinant of their clinical presentation [7]. There are no valid data regarding their growth and no clear evidence whether their growth stops after reaching a certain size or whether they continue to enlarge. Once resected, they neither recur nor do additional lesions develop in the rest of the stomach. Microscopically, Vanek's tumours 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 tumour, inflammatory pseudo-tumour, haemangioendothelioma and haemangiopericytoma [8]. Endoscopically, Vanek's tumours are sessile, polypoid lesions usually less than 4 cm in diameter (our case had a big polypoid lesion with a diameter of >5 cm). They appear to arise from the submucosa and may show surface ulceration. Microscopically, they are mainly composed of mononuclear, spindle cells with an eosinophilic cytoplasm often arranged in a perivascular pattern (onion skin appearance). The characteristic spindle-shaped cells are usually located in the deep submucosal layer and therefore, examination of endoscopic biopsy samples seldom reveals the characteristic findings. Overall, the lesions tend to be vascular and inflammatory cells (mainly eosinophils and lymphocytes) are invariably present [9]. In some polyps, 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 inflammatory fibroid polyps and eosinophilic enteritis. Immunohistochemical analysis demonstrates diffuse positivity for vimentin and variable reactivity for actin, CD34, CD68, desmin, CD117, and S100. Factor VIII and cytokeratin are usually negative [10]. Endosonographically, an inflammatory fibroid polyp is predominantly a hypo-echoic, homogenous mass within the second and third sonographic layer.

Its aetiology is unknown. It is believed to be a poorly controlled inflammatory repair response [7]. The pathogenesis of inflammatory fibroid polyps remains largely unknown. Prominent *H. pylori* infection was demonstrated in some cases of gastric Vanek's tumour and remarkable morphological changes were observed after its eradication. In a case described by Matsuhashi et al. [11], a 2-cm elevated lesion at the prepyloric region regressed and eventually disappeared in as little as 3 months after eradica-

tion. The reason why chronic *H. pylori*-associated inflammation leads to hyperplastic polyps in some patients and to inflammatory fibroid polyps in others remains to be elucidated. The lesions can also appear in the oesophagus, the small intestine and the colon. In such cases, a causative role of *H. pylori* is difficult to ascertain. Endoscopic removal is recommended as a safe and efficient treatment. Vanek's tumours do not recur after surgical resection. In our patient, the endoscopic polypectomy of the lesion was followed by *H. pylori* eradication therapy with excellent results.

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