

Large inflammatory fibroid polyp of cardia managed laparoscopically – a case report and review of the literature

Andrzej P. Kwiatkowski, Krzysztof Pańnik

Department of General, Oncological, Metabolic and Thoracic Surgery, Military Institute of Medicine, Warsaw, Poland

Videosurgery Miniinv 2014; 9 (4): 623–626

DOI: 10.5114/wiitm.2014.46448

Abstract

Inflammatory fibroid polyp or Vanek's tumor of the gastrointestinal tract is a rare, benign neoplasm. The lesion may occur at any age but is commonest in the sixth and seventh decades and is more often found in women. It is mostly situated in the stomach, especially in the antrum. Symptoms depend on the location and the size of the lesion. We present a case of a 67-year-old woman with a large inflammatory polyp of the cardia with a diameter of 10 cm × 5.5 cm × 7.5 cm imitating gastrointestinal stromal tumor (GIST). The patient complained of abdominal pain, nausea and mild anemia. We performed laparoscopic topical excision of the tumor. The postoperative course was uneventful. The 6-month follow-up did not reveal recurrence. The clinical image of a large Vanek's tumor can imitate symptoms of gastric cancer or GIST. Topical laparoscopic excision with a 1–2 cm healthy wall margin is a sufficient and adequate way of treatment.

Key words: inflammatory fibroid polyp, Vanek's tumor, cardia, stomach, laparoscopy.

Introduction

Inflammatory fibroid polyp (IFP) was first described by Vanek over 60 years ago as submucosal granuloma with eosinophilic infiltrations [1]. The lesion is mostly located in the stomach (70%), small bowel (20%), rarely in the large bowel and esophagus [2]. Inflammatory fibroid polyps account for approximately 4.5% of polyps of the stomach [3]. In most cases it is small and can be excised endoscopically; extremely rarely it can reach a large diameter. The symptoms depend on the location and the size of the tumor [4]. Inflammatory fibroid polyp usually is a submucosal tumor (SMT). Large ones can imitate gastric cancer or gastrointestinal stromal tumors (GIST) [5]. The laparoscopic approach is still controversial due to the high risk of tumor rupture or bleeding. Local resection of the stomach is the best method of treatment of SMT [6]. However, it cannot

be easily performed laparoscopically on tumors located near the esophagogastric junction.

Case report

A 67-year-old hypertensive female was admitted to our department with a 6 months history of nausea and discomfort in the upper abdomen. Her medical history included open cholecystectomy, uterine fibroids hysterectomy and right mastectomy for breast cancer. Physical examination revealed a palpable mass in the upper abdomen. Gastroscopy with endoscopic ultrasound showed a protruding oval-shaped submucosal lesion of the anterior body of the stomach, well limited, not infiltrating the gastric wall, with diameter 56 mm × 55 mm. Endoscopic biopsy was negative for neoplastic changes. Ultrasound showed the solid tumor in the left upper abdomen, with diameter 83 mm × 59 mm, and the cyst

Address for correspondence

Andrzej P. Kwiatkowski MD, PhD, Department of General, Oncological, Metabolic and Thoracic Surgery, Military Institute of Medicine, 128 Szaserów St, 04-141 Warsaw, Poland, phone: +48 791 017 093, e-mail: andkwiatkowski@poczta.onet.pl

of the left lobe of the liver with diameter 14 mm × 12 mm. Computed tomography revealed a polycyclic tumor of the minor curvature of the stomach with diameter 93 mm × 68 mm and a cyst of the left lobe of the liver (12 mm) and augmented lymph nodes, in the gastro-hepatic ligament 13 mm, in the hilus of the liver 21 mm × 13 mm and 17 mm × 12 mm (Photo 1).

Laboratory investigation revealed a hemoglobin value of 10.9 mg/dl, MCV 77 fl, MCH 25.4 pg. Explorative laparoscopy was performed. We used four trocars, one 12 mm, two 10 mm and one 5 mm (Figure 1).

The anterior gastrotomy, done by ultrasound scissors (SonoSurge Olympus), revealed a pediculated tumor of the cardia (Photos 2 and 3).

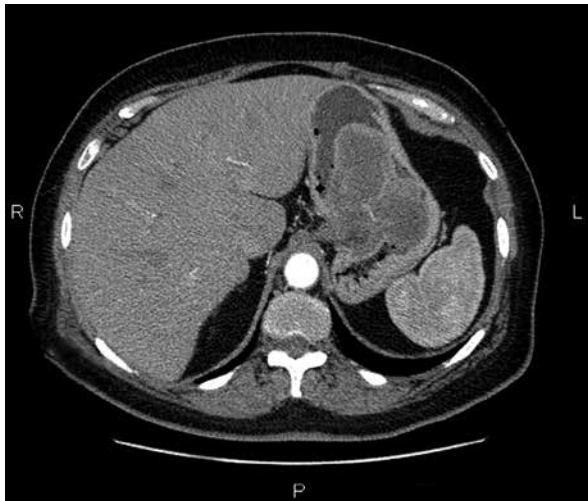


Photo 1. Radiological image of gastric tumor

The posterior wall of the stomach was not explored. The short gastric vessels were not divided. To secure and calibrate the safe passage through the cardia, a 34 Fr gastric tube was inserted through the mouth to the distal part of the stomach. The topical excision was done with two 60 mm EndoGIA staplers (Tri staple, purple cartridge, Covidien) with a 2 cm healthy wall margin. The staplers were placed intragastrically. Due to bleeding, the line of resection was reinforced by continuous hand suture. The anterior wall of the stomach was closed with two 60 mm EndoGIA staplers (Tri staple, purple cartridge,

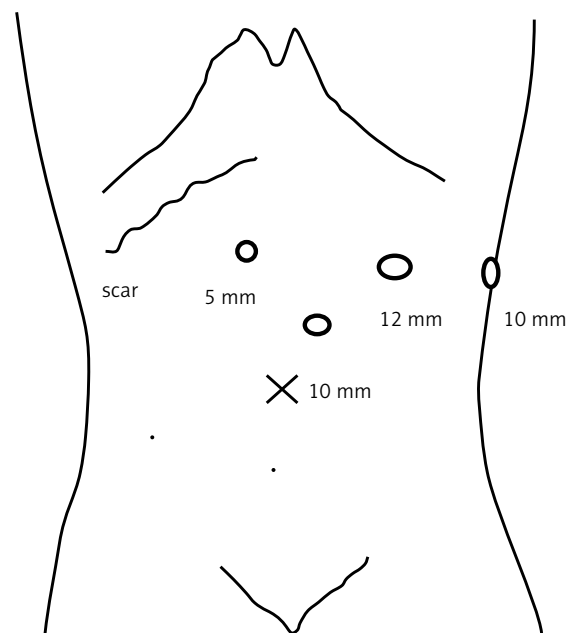


Figure 1. Placement of trocars



Photo 2. Upper part of stomach before anterior gastrotomy

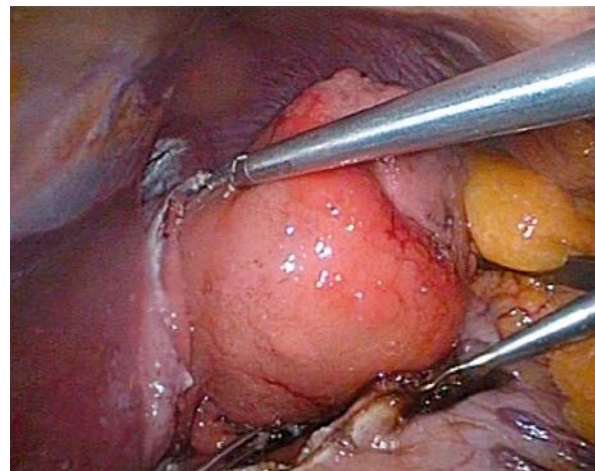


Photo 3. Tumor of cardia after anterior gastrotomy

Covidien). The staple line was oversewn by external serosal continuous suture. The tumor was extracted through the small incision in the right hypochondrium in the right hypochondrium at the site of scar after open cholecystectomy. Estimated blood loss was about 100 ml. The time of operation was 180 min.

The patient made an uneventful postoperative recovery and was discharged 5 days later.

Histological study showed a polypoid lesion of the cardia with a diameter 10 cm × 5.5 cm × 7.5 cm, formed by fibroblastic cells with inflammatory infiltrate of eosinophils and mastocytes. CD 34(+), Vimentin(+), CD117(+) for mastocyte; ALK-1(-); SMA(-); S-100(-); Bcl-2(-); Synpofizin(-); Ki67(+) were observed in single cells. The diagnosis of IFP was then established. Follow-up gastrofiberoscopy performed 6 and 12 months after surgery showed no signs of any pathology within the site of resection.

Discussion

Vanek's tumor is currently known as IFP. The name was proposed by Helwig and Ranier in 1953 and now is broadly used and accepted [6].

This tumor has a higher incidence rate in the sixth and seventh decades of life, and it is more often found in women. The lesion can be situated in any part of the gastrointestinal tract, but most often it is located in the antrum of the stomach. Stolte *et al.* found that 3.1% of gastric polyps are IFPs [7]. The polyp arises from the submucosa and grows as a polypoid mass [8]. The histological report shows the presence of mononuclear fusiform cells forming extensive bundles or rotary structures of rotated spirals with abundant amounts of eosinophilic cytoplasm. These cells are negatively stained for S-100 protein and desmin and positively for CD-34 [9]. For many years the etiology of the lesion was unknown. There are reports connecting IFP of the stomach with *Helicobacter pylori* infection [10, 11]. The latest research however revealed mutations of PDGRA in CD-34-positive spindle cells [12]. The mutation types are related to mutations known in GIST. Inflammatory fibroid polyps are true neoplasms, not reactive lesions, and if not completely removed can recur [13].

The clinical manifestations are not specific. Their type and intensity depend on the location and diameter of the lesion. The most common symptoms are gastrointestinal bleeding, unspecified abdominal pain, total or partial intestinal occlusion and

intestinal invagination [14]. The localization in the esophagus or in the upper part of the stomach can cause dysphagia and symptoms of gastro-esophageal reflux [15]. Small tumors can be easily removed by an endoscopic approach but after non-radical dissection can recur [16]. Endoscopic biopsy with standard forceps can be misleading when the lesion is covered by normal mucosa [17]. If the IFP reaches a large diameter it often resembles GIST, gastric cancer or leiomyoma [18]. In the case of large tumors we should apply surgical treatment. The laparoscopic approach is still controversial due to the high risk of tumor rupture or bleeding, which can result in peritoneal spreading. But there are reports of successful and safe treatment even of large tumors by the laparoscopic approach [19]. The range of operation depends on the location of the lesion and its diameter but above all depends on the possibility of radical dissection. Local excision, if possible, with an unaltered, healthy wall margin of 1 cm to 2 cm is a sufficient, curative way of treatment. The most demanding localization is one near the esophago-gastric junction [20]. But even in this case minimal invasive surgery is possible.

Conclusions

The laparoscopic approach should always be considered in every case of SMT regardless of its size and location.

References

1. Vanek J. Gastric submucosal granuloma with eosinophilic infiltration. *Am J Pathol* 1949; 25: 397-411.
2. Blackshaw AJ, Lewison RA. Eosinophilic infiltrates of the gastrointestinal tract. *J Clin Pathol* 1986; 39: 1-7.
3. Stolte M, Finkenzeller G. Inflammatory fibroid polyp of the stomach. *Endoscopy* 1990; 22: 203-7.
4. Galbfach PJ, Narbutt PG, Mik MŁ, et al. Inflammatory fibroid polyp of stomach – a case report. *Pol Merk Lek* 2009; 25: 125-6.
5. Geller AJ, Achem SR, Kolts BE. Giant inflammatory fibroid polyp mimicking gastric cancer. *J Clin Gastroenterol* 1992; 15: 352-4.
6. Li CJ, Huang MT, Chen CS, et al. Application of laparoscopic techniques for resection of individual gastric submucosal tumors. *Surg Laparosc Endosc Percutan Tech* 2007; 17: 425-9.
7. Helwig EB, Ranier A. Inflammatory fibroid polyps of stomach. *Surg Gynecol Obstet* 1953; 96: 355-67.
8. Stolte M, Sticht T, Eidt S, et al. Frequency, location, age and sex distribution of various types of gastric polyp. *Endoscopy* 1994; 26: 659-65.
9. Adachi Y, Mori M, Iida M, et al. Inflammatory fibroid polyp of the stomach. Report of three unusual cases. *J Clin Gastroenterol* 1992; 15: 154-8.

10. Kim MK, Higgins J, Cho EY, et al. Expression of CD -34 bcl-2, and kit-inflammatory fibroids polyps of gastrointestinal tract. *Appl Immunohistochem Mol Morphol* 2000; 8: 147-53.
11. Nishiyama Y, Koyama S, Andoh A, et al. Gastric inflammatory fibroid polyp treated with Helicobacter pylori eradication therapy. *Intern Med* 2003; 42: 263-7.
12. Shalom A, Wasserman I, Segal M, et al. Inflammatory fibroid polyp and Helicobacter pylori. Aetiology or coincidence? *Eur J Surg* 2000; 166: 54-7.
13. Schildhaus HU, Buttner R, Binot E. Inflammatory fibroid polyps are true neoplasms with PDGFRA mutations]. *Pathologe* 2009; 30 Suppl. 2: 117-20.
14. Zinkiewicz K, Zgodziński W, Dabrowski A, et al. Recurrent inflammatory fibroid polyp of cardia: a case report. *World J Gastroenterol* 2004; 10: 767-8.
15. Leon-Espinoza C, Gomez-Mateo M, Lopez-Mozos F, et al. Does adult intestinal invagination need surgery? Report of case and review of literature. *Int J Clin Med* 2011; 2: 456-8.
16. Godey SK, Diggory RT. Inflammatory fibroid polyp of the oesophagus. *World J Surg Oncology* 2005; 3: 30.
17. Matsushita M, Hajiro K, Okazaki K, et al. Endoscopic features of gastric inflammatory fibroid polyps. *Am J Gastroenterol* 1996; 91: 1595-8.
18. Gutu E, Ghidrin G, Misin I, et al. Bleeding gastric inflammatory fibroid polyp (Vanek's tumor). *Chirurgia* 2010; 105: 137-40.
19. Gelmini R, Bertolini F, Rossi G, et al. Laparoscopic approach of gastric gastrointestinal stromal tumors (GISTs): is it still a courageous choice? Report of two cases. *Surg Laparosc Endosc Percutan Tech* 2007; 17: 133-7.
20. Morinaga N, Sano A, Katayama K, et al. Laparoscopic transgastric tumor-everting resection of the gastric submucosal tumor located near the esophagogastric junction. *Surg Laparosc Endosc Percutan Tech* 2004; 14: 344-8.

Received: 23.06.2013, **accepted:** 14.09.2014.