Gastrointestinal Hemorrhage from a Small Bowel Polypoid Hemangioma

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ABSTRACT

Objectives: Occult gastrointestinal bleeding can originate from the foregut, midgut, or hindgut. The evaluation of the foregut and hindgut are well established. Cases that involve bleeding from the midgut present a much more significant challenge in terms of detection and treatment. Methods of evaluation include small bowel endoscopy, arteriography, and gastrointestinal contrast studies. The differential diagnosis includes arteriovenous malformations, angiodysplasia, ulcers, and small bowel tumors. We will demonstrate that both the evaluation and treatment of these lesions may be accomplished using minimally invasive techniques.

Methods: A case of occult gastrointestinal bleeding from a polypoid hemangioma located in the distal jejunum is presented. Diagnosis and treatment was accomplished using angiographic localization with laparoscopic resection.

Results: Laparoscopic small bowel resection after angiographic localization was successful in removing the jejunal polypoid hemangioma. The patient experienced no further gastrointestinal bleeding.

Conclusions: We will discuss the technique of localization and treatment used in this unusual case. A laparoscopic approach is an appropriate and beneficial treatment modality in a bleeding midgut lesion provided the lesion can be localized preoperatively and an oncologic resection is maintained.

Key Words: Hemangioma, Small bowel tumor, Laparoscopy.

INTRODUCTION

Gastrointestinal bleeding that originates in the small intestine is often difficult to diagnose and treat. Fortunately, it is also uncommon. Angiography is frequently used to identify the source of bleeding and may also be used to locate the source of bleeding by injecting the surrounding tissue with methylene blue. When successful, this should allow a laparoscopic approach to small bowel resection and eliminate the need to manipulate the entire length of the small intestine in hopes of palpating the lesion.

CASE REPORT

A 62-year-old female was found to have anemia during a routine screening exam by her primary care physician. Her hemoglobin was 8g/dL and hematocrit 25%. She had vague complaints of fatigue with mild exertion at that time. Her past medical history is significant for severe valvular heart disease secondary to rheumatic fever. She has prosthetic mitral and aortic valves, a history of a tricuspid annuloplasty, and takes coumadin. She denied vomiting, melena, and bright red blood per rectum. However, she was found to have heme-positive stools. An esophagogastroduodenoscopy revealed only mild gastritis that did not account for her degree of blood loss. Colonoscopic findings were unremarkable. A UGI/SBFT demonstrated poor gastric motility but otherwise no abnormalities. Over the 6-week course of her evaluation, she received a total of 10 units of packed red blood cells. Angiographic evaluation of the superior mesenteric artery demonstrated a lesion with rapid venous filling in the distal jejunum (Figure 1). The differential diagnosis included angiodysplasia, arteriovenous malformation, and vascularized tumor.

Interventional radiology localized the lesion with methylene blue in the immediate preoperative period. Laparoscopy was successful in identifying the location of the dye, and a mass was appreciated within the lumen of the small bowel. The segment of bowel was exteriorized and resected using GIA and TA staplers. A 7-mm polypoid hemangioma was identified in the pathologic specimen. The patient experienced no further gastrointestinal bleeding.
DISCUSSION

Primary neoplasms of the small bowel are uncommon. These neoplasms may represent either a benign or malignant process with a wide range of symptoms that are often nonspecific.\(^1,2\) Surgical series report an equal frequency of benign and malignant tumors, whereas autopsy series heavily favor benign tumors as the most common. This indicates that malignant tumors are far more likely to produce symptoms.\(^3\)

Bleeding is one of the symptoms associated with small bowel neoplasms. This is usually occult and generally requires an extensive gastrointestinal evaluation before a diagnosis is obtained. Modalities used include plain films, UGI/SBFT, enteroclysis, computed tomography, routine and extended upper endoscopy, tagged RBC scanning, and angiography.\(^4,5\) Angiography may also offer the ability to localize the lesion for resection. This requires the lesion to be easily identified and amenable to passage of an intravascular catheter to within close proximity. Methylene blue must then be injected into the surrounding tissue allowing the location of the lesion to be identified from an extramural vantage point. Minimally invasive surgery using laparoscopy may then be offered to the patient if the above criteria are met. This avoids the guesswork in transillumination and palpation for localizing the tumor.

Laparoscopic small bowel resection is an established technique and is performed by exteriorization of the diseased segment of bowel. Traditional resection and anastomotic techniques are then used to remove the lesion. This provides a resection identical to historical control while decreasing the invasive nature of the procedure. Compromise of the surgeon’s ability to perform an adequate oncologic resection, however, mandates conversion to an open procedure. The incidence of malignancy is too high in this group of tumors to allow complacency.

CONCLUSION

Midgut sources of bleeding represent a challenge in diagnosis, localization, and treatment. Laparoscopy in conjunction with angiographic localization is a viable means to approach this problem. This offers a minimally invasive treatment with established techniques that is well tolerated by the patient and reduces recovery time. Conservatism, however, necessitates the surgeon to consider that up to 50% of bleeding lesions of the small bowel may represent a malignant process, and an adequate oncologic technique should be preserved.

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