Case Report

Adult ileocolic intussusception presenting as small bowel metastatic melanoma

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ABSTRACT

We present a rare case of small bowel intussusception that occurred in a young adult with unsuspected metastatic melanoma, diagnosed by imaging, laparotomy and histological examination. We further discuss the clinical presentation, imaging and surgical findings, and provide a brief discussion of adult intussusception.

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Intussusception is telescoping of a segment of the gastrointestinal tract into an adjacent segment and is the leading cause of intestinal obstruction in children. Adult bowel intussusception is rare, most frequently involving the small or large bowel, and the majority of cases have a demonstrable lead point as the cause. Malignant causes such as primary adenocarcinoma, lymphoma, and metastatic disease cause more adult intussusceptions than benign etiologies, and often present with nonspecific symptoms making clinical diagnosis difficult. We report a case of small bowel metastatic melanoma presenting with ileocolic intussusception in a young female without known primary melanoma. Melanoma metastases to the gastrointestinal tract are the most common metastatic lesions of the bowel, with the small bowel being affected most frequently.

Case report

A 20-year-old woman presented with a 3-month history of recurrent colicky, abdominal pain, and nausea, with intermittent diarrhea, which remained nonbloody until days before presentation. She denied fevers, weight changes, or vomiting. Her medical history included asthma, anxiety, and depression with no previous abdominal surgery. Physical examination revealed a well-nourished woman in mild distress with right lower quadrant tenderness and positive
rebound. No abdominal masses were appreciated. Laboratory results included an elevated leukocyte count of 13 \text{th/mm}^3 and decreased hemoglobin of 8 \text{g/dL}.

Abdominal radiograph showed prominent loops of small bowel and air fluid levels in the midabdomen and upper abdomen. Computed tomography (CT) of the abdomen and pelvis with oral and intravenous contrast revealed dilated and fluid-filled loops of small bowel, with an associated ileocolic intussusception (Fig. 1A). Axial CT image showed characteristic bowel within-bowel configuration of intussusception, with invaginated mesenteric fat and vessels (Fig. 1B). A 3-cm enhancing mass within the terminal ileum was suspected as the lead point (Fig. 2). Emergent laparotomy was performed because of complete small bowel obstruction.

At laparotomy, 12 cm of small bowel had intussuscepted into the right colon because of a 3-cm intraluminal polypoid mass at the ileocolic junction. Photograph of the gross-resected specimen demonstrated the tumor as the lead point and intussusception of the distal ileum into the cecum. Cross section through the resected specimen revealed an intraluminal, pedunculated polypoid mass with narrowed lumen, and wall thickening (Fig. 3A, B). No other abnormalities were detected in the peritoneal cavity. Histologic examination revealed malignant melanoma invading into the ileal wall and serosa, with negative locoregional lymph nodes. The patient’s postoperative course was uneventful.

**Discussion**

Intussusception in adults is rare and typically associated with an underlying malignant neoplasm as the lead point [1]. Intussusception is the invagination of a proximal segment of bowel (intussusceptum) into the lumen of a distal segment (intussuscipiens) as a result of peristalsis. Peristalsis propels the sliding of bowel-within-bowel and can lead to intestinal obstruction and ischemia, necessitating surgical treatment [1,2]. Intraluminal polypoid lesions have a greater tendency to cause telescoping of the bowel because peristalsis pulls the lesion forward [3,4]. Clinical manifestations of adult intussusception often result in nonspecific episodic crampy abdominal pain, nausea, vomiting, constipation, or weight loss, making clinical diagnosis difficult. CT is the preferred modality of investigation and often demonstrates the pathologic lead point and the intussusception [3].

The most common tumor to metastasize to the small bowel is melanoma, but intussusception related to melanoma is uncommon [3]. Small bowel melanoma metastases can arise in patients with a history of a cutaneous, anal, or ocular melanoma [4,5]. An estimated 60% of patients who die from melanoma have gastrointestinal metastases, however, only 1.5-4% of these metastases are detected before death,
suggesting most patients with metastatic intestinal melanoma remain undiagnosed during their lifetime [4]. The time period between the diagnosis of primary melanoma and bowel metastasis has been reported as up to 54 months [6]. The incidence of metastatic melanoma from an unknown primary origin ranges from 4% to 9% and is considered metastatic as primary lesions can be very small and may regress spontaneously [4,6]. The most common anatomic sites of metastasis in the gastrointestinal tract are the jejunum and ileum, and small bowel melanoma metastases can be polypoid, cavitary, infiltrating, or exoenteric [5]. Most commonly, small bowel lesions are in the form of multiple, submucosal polypoid masses, and less commonly as a solitary mass [4,5,7].

A variety of lesions can cause ileocolic intussusception in an adult, including benign and malignant lesions. Benign lesions account for about 30% of colonic intussusceptions and include lipoma, benign stromal tumors, adenomatous polyps, endometriosis, and previous anastomoses [8,9]. Intussusception involving the small bowel is more often because of benign etiologies and less often to a neoplasm. When small bowel intussusception occurs due to a pathologic lead point, it is usually a metastatic lesion [3]. Although the most common metastases to the small bowel are melanoma metastases, intussusception caused by metastatic melanoma is very rare. Surgical resection for gastrointestinal metastatic melanoma is recommended as first-line treatment [3,4,10].

Furthermore, review of the patient’s medical history revealed excision of a left shoulder dysplastic nevus, 4 years before presentation. Patients with metastatic melanoma to visceral sites have a poor prognosis, with a 1-year survival rate of 41% [11]. As a result, abdominal pain, nausea, and melena in a patient with melanoma should prompt suspicion of intestinal involvement, including intussusception. The characteristic CT imaging features of intussusception allow for rapid diagnosis in an often, challenging clinical picture of nonspecific abdominal pain.

**REFERENCES**