Small bowel intussusception due to metastatic bladder carcinoma

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ABSTRACT
The common sites of metastasis from a urinary bladder carcinoma include lymph nodes, bones, lung, liver, and peritoneum. Only a few cases of small bowel metastasis from urinary bladder malignancy have been reported in the English literature. Only one of these cases presented with bowel intussusception. We report a case of an adult small bowel intussusception due to metastasis from a urinary bladder carcinoma which is extremely rare as small bowel metastasis occur mostly from breast, lungs or melanomas.

Key words: Intussusception, urinary bladder, metastasis

INTRODUCTION
Small bowel intussusception is seen more commonly in pediatric population as compared to adults. Adult small bowel intussusceptions occur almost always due to a demonstrable lead point, mostly benign, at times malignant.[1] These malignant lesions can be either a primary small bowel tumor or a metastatic tumor from a distant primary. Metastatic tumors arise mostly from breast, lungs or melanomas. On the other hand, urinary bladder malignancies spread usually to lymph nodes, bones, lung, liver, and peritoneum. We report a rare case of small bowel intussusception due to metastasis from urinary bladder carcinoma.

CASE REPORT
A 40-year-old male patient was admitted to the hospital for work up of hematuria. Ultrasonography of the abdomen revealed a lesion with mixed echogenicity in the urinary bladder suggestive of carcinoma urinary bladder. Cystoscopy showed a growth over the anterior wall of the urinary bladder. The patient was provisionally diagnosed as a case of carcinoma urinary bladder and planned for further imaging. During the course of hospital stay, however, he developed features of acute intestinal obstruction. Repeat ultrasonography of the abdomen at this point showed dilated and thickened small bowel loops with bowel within the bowel appearance, suggestive of intussusception.

The patient underwent an exploratory laparotomy and was found to have an ileoileal intussusception two feet proximal to ileocecal junction [Figure 1]. On reduction of the intussusception, a growth of size 3 cm × 3 cm was found to be the lead point [Figure 2]. There were no other metastatic deposits in the abdomen. Resection and anastomosis of the ileal segment was done.

Histopathological examination of the resected bowel showed a 2.5 cm × 2 cm × 1.5 cm growth, microscopic examination of which revealed metastatic urothelial carcinoma involving serosa and reaching up to the mucosa with lymphovascular invasion.

DISCUSSION
Intussusception refers to a condition whereby a segment of intestine becomes drawn into the lumen of the adjacent distal bowel. The most common locations of intussusception are at the junctions between the freely moving segments of bowel and segments fixed due to adhesions or retroperitoneal attachments.

Intussusception is the leading cause of intestinal obstruction in children. Adult intussusception on the other hand is
a rare disease and accounts for only 5% of all cases of intussusception. It is also a rare cause of intestinal obstruction in adults accounting for less than 1% of all cases of bowel obstruction.\textsuperscript{[1]}

The presentation of pediatric intussusception often is acute with sudden onset of intermittent colicky pain, vomiting, and bloody mucoid stools, and the presence of a palpable mass. In contrast, the adult entity may present with acute, subacute, or chronic non-specific symptoms.\textsuperscript{[1]}

The usual clinical presentation of adult intussusception is with features of intestinal obstruction and in many of these cases a preoperative diagnosis of intussusception cannot be made. In a study of 44 cases of adult intussusception by Barussaud et al., a preoperative diagnosis of intussusception was made in only 52% of the cases. The sensitivities of the different radiological methods in diagnosing intussusception preoperatively were abdominal ultrasounds (35%), upper gastrointestinal barium study (33%), abdominal computed tomography (CT) (58%) and barium enema (73%).\textsuperscript{[2]}

Adult intussusceptions have been found to have an organic lead point in 70-90% of the cases in various studies.\textsuperscript{[1]} Small bowel intussusceptions may occur due to adhesions, Meckel’s diverticulum, inflammatory bowel disease, lymphoma, primary malignancy or metastatic disease, as opposed to large bowel intussusceptions, which are due to an underlying malignancy in the majority of the cases. Malignant lesions as the cause of small bowel intussusception have been reported in 17-30% of the cases in various studies as opposed to 66% of large bowel intussusceptions.\textsuperscript{[1]}

Metastatic spread to small intestine can occur by direct invasion, hematogenous spread, or intraperitoneal seeding. Colon and pancreatic cancers are the most common primary sites for direct invasion. Hematogenous metastases occur most frequently from lung and breast carcinoma or melanoma. Peritoneal seeding may arise from any intra-abdominal malignancy including gastric, hepatic, ovarian, appendiceal, and colonic primary tumors.\textsuperscript{[3]}

In a study of 392 cases of bladder cancer by Shinagare et al., lymph nodes, bones, lung, liver, and peritoneum were the most common sites of metastasis. Two patients with peritoneal carcinomatosis in this study had intestinal obstruction.\textsuperscript{[4]}

The management of adult intussusception is essentially surgical in view of high probability of the presence of an organic lead point. However, there remains a controversy regarding the extent of surgery in these cases. Some authors recommend an en bloc resection without initial reduction in view of high incidence of underlying malignancy as reduction in these cases carries a risk of intraluminal seeding and venous embolization. Others recommend en bloc resection in all cases of colonic intussusception and a selective approach in small bowel in view of lower rate of malignancy. Recently, laparoscopic approach has also been advocated in these cases especially in view of often doubtful preoperative diagnosis.\textsuperscript{[1]}

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