

## Case Report

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# Ileo-ileal intussusception secondary to malignant metastatic melanoma: a case report

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## ABSTRACT

Intestinal intussusception in adults is a rare manifestation and almost certainly represents a pathological lead point such as a neoplasm. We present such a case of ileo-ileal intussusception with an extraluminal deposit of metastatic melanoma (MM) acting as a lead point. A 48-year-old gentleman presented with small bowel obstruction secondary to ileo-ileal intussusception. His past medical history included an advanced cutaneous melanoma awaiting work-up. An emergency laparotomy with small-bowel resection and primary anastomosis was performed. Histopathological analysis confirmed metastatic melanoma and systemic therapy was commenced. Melanoma commonly metastasizes to the small intestine, they often present with intussusception and small bowel obstruction or bleeding. The risk factors for metastatic spread include superficial spreading melanoma, a Clark level of III or IV, Breslow thickness above 1mm, regression, ulceration, and high mitotic rate. Diagnosis is made radiologically with CT, endoscopy, contrast studies or nuclear medicine. Emergency operative management is indicated to relieve the obstruction and definitive therapy is indicated. Malignant melanoma with distal metastases is considered a stage IV disease and such patients are subject to systemic therapy including surgical resection, chemotherapy, immunotherapy, or a combination of all three. Ileo-ileal intussusception with MM as a lead point is a very rare presentation in antemortem patients. A CT scan is the investigatory modality of choice and emergency surgery is indicated to relieve obstruction and obtain histology. Prognosis is poor but novel immunotherapy agents herald opportunities even in palliative patients.

**Keywords:** Malignant melanoma, Emergency surgery, Oncological surgery, Immunotherapy, Chemotherapy

## INTRODUCTION

Metastasis of cutaneous malignancies to the small intestine is a rare phenomenon but is common (most commonly to ileum and jejunum) in as much as 60% of cases in post-mortem cases of malignant melanoma (MM).<sup>1,2</sup> In antemortem patients, an intestinal MM diagnosis is only made in 2-4.7% of patients.<sup>1,2</sup> Clinically, MM of the gastrointestinal (GI) tract manifests with mainly indolent symptoms of GI upset, vague generalised abdominal pain, intestinal obstruction and bleeding.<sup>1,2</sup> Intestinal intussusception in adults is a rare manifestation accounting for 1% of all bowel obstructions.<sup>3</sup> Up to 20% of cases are idiopathic in nature but more commonly secondary to benign and malignant neoplasms.<sup>3</sup>

This described the case of a 48-year-old man who presented with small bowel obstruction (SBO) secondary to ileo-ileal intussusception with the responsible lesion being a melanocytic lesion.

## CASE REPORT

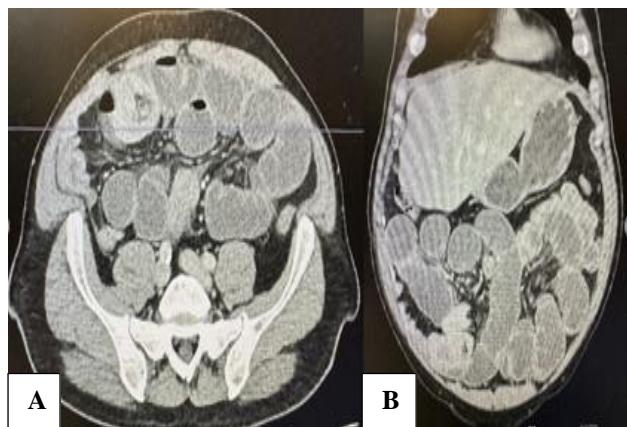
A 48-year-old man presented to the emergency department with 2 days of intermittent central abdominal pain. These symptoms were associated with progressive gastro-oesophageal reflux, nausea, and abdominal distension. He opened his bowel normally and did not experience any GI

bleeding, however, prior to hospital admission he reported that he could not pass flatus.

His past medical history was significant for type 2 diabetes mellitus (T2DM) and experienced surgical intervention for a benign liver tumour 20 years ago. Most recently, a punch biopsy of his right deltoid was taken revealing an invasive nodular malignant melanoma. Histopathological analysis of the lesion revealed Breslow thickness of 3 mm, Clark level IV.

Clinical examination of the patient revealed observations within normal limits, abdominal distension and tenderness was elicited on palpation in the right lower quadrant. Subsequent examination of organ systems was unremarkable, additionally, he did not have any palpable lymphadenopathy. Biochemistry was performed and revealed a normocytic anaemia with haemoglobin of 10 g/dL and lactate was measured at 1.1 mmol/l.

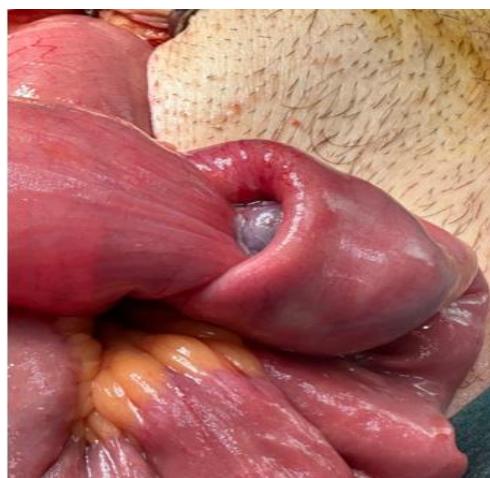
All other blood work was within normal limits. Computed tomography (CT) revealed acute SBO at the right lower quadrant with evidence of a large ileoileal intussusception with an abutting soft tissue lesion measuring up to 36 mm (Figure 1). The rest of the CT scan was unremarkable, and no bowel ischaemia was found radiologically.



**Figure 1 (A and B): Contrast enhanced CT scan of the abdomen and pelvis demonstrates ileo-ileal intussusception secondary to a 36 mm soft tissue lesion complete with the pathognomonic target sign.**

The patient deteriorated and the patient experienced progressive pain, abdominal distension and a repeat venous blood gas indicated a lactate level of 4.1 mmol/l despite fluid resuscitation. The patient was consented for emergency surgery and an emergency laparotomy was performed. During the laparotomy 30 cm mid-to-distal ileum was found to be telescoping with a 3.5 cm melanocytic lesion acting as an obvious lead point (Figure 2). Unable to de-telescope the bowel the decision was made to resect. A TLC Linear Cutter stapling device (Ethicon, Johnson and Johnson, New Jersey, USA), was used to resect 15 cm of ileum and a side-side primary anastomosis was performed.

Histology of the tumour confirmed MM with S100, Melan-A and HMB-45 tumour markers being positive, an  $R_0$  resection was achieved. Follow-up is arranged with medical oncology and the patient is clinically stable and resumed immunotherapy.



**Figure 2: Ileo-ileal intussusception with metastatic melanoma acting as a lead point.**

## DISCUSSION

Melanoma, specifically small intestine, is one of the most common malignancies with metastatic spread to the GI tract.<sup>4</sup> Whilst GI metastasis of MM is often found in post-mortem autopsies of MM cases, it is rarely present in antemortem patients. A large autopsy review observes incidence of small bowel metastasis up to 60%.<sup>5</sup> GI metastasis can present either at time of primary diagnosis or later as a sign of recurrence, symptoms may include abdominal pain, dysphagia, haematemesis and rarely as SBO or melaena.<sup>6</sup> The usual appearance of GI tract MM is that of multiple ulcerated pigmented or amelanocytic polypoid masses. The risk factors for metastatic spread include superficial spreading melanoma, a Clark level of III or IV, Breslow thickness above 1 mm, regression, ulceration, and high mitotic rate.<sup>2</sup> The patient described here presented with a Breslow thickness of 3 mm, Clark level IV with a high mitotic rate and ulceration which could explain the increased risk of metastasis. Diagnosis of MM is usually made radiologically with CT or uncommonly ultrasonography but also with endoscopic or contrast studies.<sup>2</sup> Nuclear medicine studies like PET scanning is becoming more commonplace for staging of MM.<sup>7</sup> Interestingly, the patient in this case had a PET scan scheduled as part of the standard work-up for his cutaneous melanoma given the advanced nature of initial histology.

Emergency operative management is the mainstay for cases of intestinal intussusception in adults which enables resection of the lesion as well as restoration of bowel function.<sup>8,9</sup> Malignant melanoma with distal metastases is considered a stage IV disease and such patients are subject to systemic therapy including surgical resection, chemotherapy, immunotherapy, or a combination of all

three.<sup>2</sup> The extant literature examining MM of the GI tract has observed improvement in mortality associated with surgical resection of malignancies but remain poor with a 5-year survival rate of 46% or 69% (with and without regional lymph node involvement, respectively).<sup>10</sup> Nevertheless, surgical resection with curative intent is a rare phenomenon as there usually multiple lesions that are unlikely to provide a clinical benefit, the obvious exception is when there is bleeding or obstruction as there was in this case. Systemic therapy with chemotherapy was previously the mainstay in treatment options for advanced melanoma, despite many studies and various chemotherapy combinations, they have yet to demonstrate an improvement in survival.<sup>11</sup> Immunotherapy (with or without chemotherapy) has heralded improved overall survival without the toxicities associated with chemotherapy.<sup>11</sup>

## CONCLUSION

Ileo-ileal intussusception with MM as a lead point is a very rare presentation in antemortem patients. With a past medical history of cutaneous malignancy, a high degree of suspicion must be taken when patients present with SBO secondary to intussusception. A CT scan is the investigatory modality of choice and emergency surgery remains the gold-standard method of relieving mechanical obstruction. Patient prognosis is poor but novel immunotherapy agents herald opportunities even in palliative patients.

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