



Advanced malignant melanoma of small bowel with lung metastases revealed by small bowel obstruction: A case report and literatures reviewed

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Abstract

Melanoma diagnosed by small bowel obstructions (SBOs) as the initial clinical symptom is a relatively rare condition. We present a rare case of SBO that occurred in an adult woman with

unsuspected small bowel melanoma, diagnosed by imaging, laparotomy and pathological examination. A 49-year-old female was sent to the emergency department complaining about abdominal pain and total constipation. CT scan showed small bowel obstruction and an enhanced mass located in the proximal jejunum segment. Exploratory laparotomy was performed, and a mass protruding to the jejunum which caused stenosis of intestine was revealed. Intestinal resection and anastomosis was performed. Pathological examination demonstrated melanoma diagnosis.

Keywords: melanoma, small bowel, small bowel obstruction, diagnosis, metastasis

Introduction

Melanoma is a highly malignant tumour develops from melanocytes which mostly harbored in the skin, the eye's choroid, and the anal margin. Melanoma tends to metastasize to lymph nodes, lungs, and liver due to its malignant biological behavior. Although intestinal obstruction of small bowel is common mostly caused by post-operative adhesions, and abdominal hernia clinically, attention must be pay to malignant tumours. Small bowel melanoma is an especially rare condition of malignant tumours causing small bowel obstruction. Primary small bowel melanoma is even rarer. However, whether small bowel melanoma arise as true small bowel primaries or represent metastases from unidentified cutaneous melanomas is still under debate. In this article, we present a case of intestinal obstruction caused by small bowel melanoma and relevant literatures are reviewed.

Case Report

A 49-year-old female was referred to the emergency department with abdominal pain and obstipation for the previous 4 days, and aerofluxus ceased, along with abdomen distended severely on the hospitalization day. Concomitant symptoms included nausea and vomiting.

Chilliness, fever, melena, osphalgia, hematemesis or melena was absent. Her past medical history presented nothing special.

On hospital admission, general physical examination revealed clinical signs of dehydration with dry mucous membranes and distended abdomen. No hernia or abdominal mass was recovered by physical examination. Signs of jaundice or peritoneal irritation was absent. Vital sign was normal.

A contrast-enhanced CT scan showed manifestation of high-grade small bowel obstruction and a mass located in the proximal jejunum segment was revealed (Figure. 1). CT scan of chest also revealed multiple masses in both sides of lung base consistent with metastases (Figure. 2). Laboratory investigations yielded Na levels of 130mmol/dl, and K levels of 3.2mmol/dl, alongside hemoglobin and white blood cell (WBC) levels of 10.2 g/dl and 12000/mm³ respectively. Other biochemical parameters remained normal.

The patient was initially managed conservatively with intravenous electrolyte, rehydration and anti-infection. After primary care, the patient underwent an exploratory laparotomy, and the intraoperative finding were multiple dilated loops of small bowel. Further exploration revealed a stenosis of jejunum about 100 cm from the Treitz ligament and a mass about 3 × 4cm in size protruding to the intestine. An enlarged lymph node of intestinal mesentery was recovered as well. A length of about 22cm of the intestine containing the tumour was removed and mesenteric lymph node dissection was performed, and end-to-end anastomosis of intestine was achieved sequentially. By specimen examination, a black solid tumour with exophytic growth infiltrating the small bowel wall and a lymph node of abnormally enlarged in mesenteric region were noticed (Figure. 3). Cross section through the resected specimen showed the enlarged lymph node of intestinal mesentery with black colored (Figure.4). Pathological examination suggested tumour cells infiltrated breakthrough intestinal serosa, and mounts of melanin cells accumulated microscopically, which demonstrated melanoma diagnosis (Figure.5). Given the above findings, a thorough examination of skin, mucosa, eyes and genital areas was carried out but identified no suspicious lesions and the patient denied any mole resection surgery history.

The patient recovered well postoperative until she suffered from sudden dyspnea on the 7th day which was highly suspected for pulmonary embolism with hypoxemia and high level of D-dimer, and died the next day.

Discussion

Small bowel obstructions (SBOs) are common. Adhesions make up majority of cases at 84.9%, followed by abdominal hernia and then malignancies [1]. Although melanoma possessed an unidentified tendency of gastrointestinal metastasis, it is still a relatively rare condition of small bowel obstruction. Primary melanoma of the small bowel causing intestinal obstruction is even rarer. Sanki reported that only 10.2% of gastrointestinal tract melanoma were primary and nearly 90% were secondary metastasis [2]. However, whether small bowel melanoma arise as true small bowel primaries or represent metastases from unidentified cutaneous melanomas remains debatable. Up to 26% of cases of intestinal melanomas, no extra-intestinal primary lesion can be identified [3]. And the media interval from the diagnoses of primaries to metastases was 2 years [2]. The main clinical manifestations of gastrointestinal metastasis of melanoma were symptoms related to anemia and intestinal obstruction [2].

Melanin is a strong indicator of pathological diagnosis of melanoma, however when melanin is absent, immunohistochemistry is needed. Antibodies include S-100 proteins, HMB-45(Human Melanoma Black 45), Melan-A and vimentin are four main markers for diagnosis of melanoma [4]. In HE stained, melanoma tissue showed a diversity of cell morphology and tissue structure under microscopy. The tissue structure is often composed of numbers of different epithelioid cells and spindle cell, with varying sizes. The interstitial tissue is abundant of blood vessels arranged in the form of papillae, roses and antlers. The diversity of morphology and tissue structure and the abundance of blood vessels are valuable for the diagnosis of melanoma. In our cases, melanin is presented in pathological examination, and macroscopic examination appeared to be typical melanoma appearance, so immunohistochemistry was not tested.

Regarding therapeutic approach, there is no consensus in the curative treatment of melanoma of the intestine. Guideline for cutaneous melanoma is referred for treatment of intestinal tract melanoma [5]. Surgical resection of intestinal segments with mesentery and regional lymph nodes and intestinal anastomosis performed subsequently was recommended for patient without distant metastasis [5]. Besides, chemotherapy, immunotherapy, and biotherapy therapy have been demonstrated in cutaneous melanoma, however the clinical benefit remains further evaluation for intestinal melanoma [5,6].

The prognosis of patients with malignant melanoma of the gastrointestinal tract turn out to be poor. The mean overall survival of metastasis cases was 6-9 months with 5 years survival rate less than 10% [7]. The prognosis of primary gastrointestinal malignant melanoma was even worse. The overall survival of cases with surgical treatment was 19 months and cases with untreated was 8 months [7].

In conclusion, it is a relatively rare condition of small bowel obstruction caused by small bowel melanoma. However, in people who present with SBO without history of previous surgeries or obvious hernia, a malignant melanoma must be considered. The prognosis of patients with small bowel melanoma is poor, even worse with the primary cases.

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Figure legend

Figure 1. Contrast-enhanced CT showing a mass (red arrow) located in the jejunum segment and small bowel obstruction

Figure 2. CT scan of chest showed multiple masses in the both sides of lung base consistent with metastases.

Figure 3. A black solid tumour with exophytic growth infiltrating the small bowel wall causing stenosis (yellow arrow) and a lymph node of abnormally enlarged in intestinal mesentery (blue arrow).

Figure 4. Cross section through the resected specimen showed the enlarged lymph node in intestinal mesentery with black colored (blue arrow).

Figure 5. Pathological examination showed mounts of melanin cells accumulated in small bowel mass microscopically.

Figure 1.

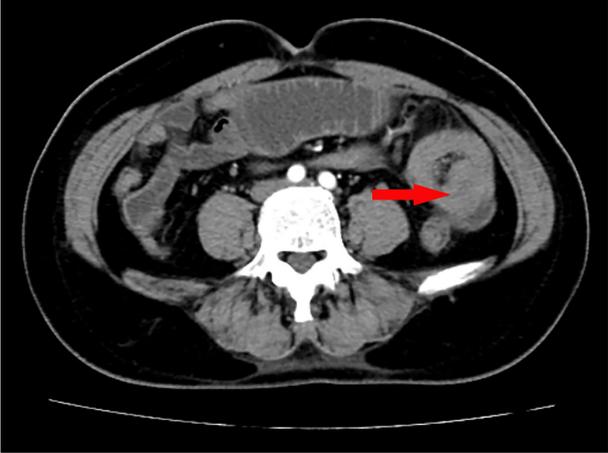


Figure 2.

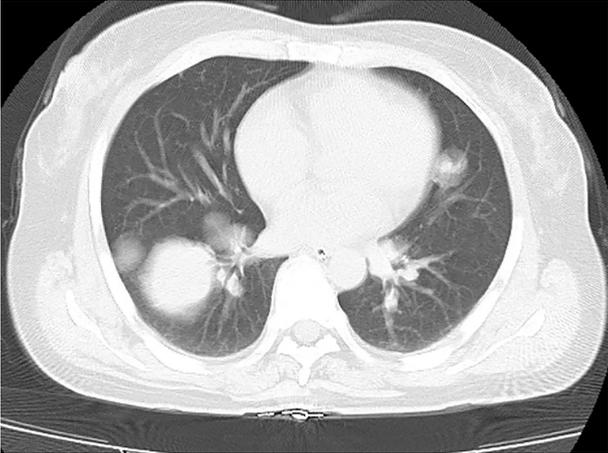


Figure 3.

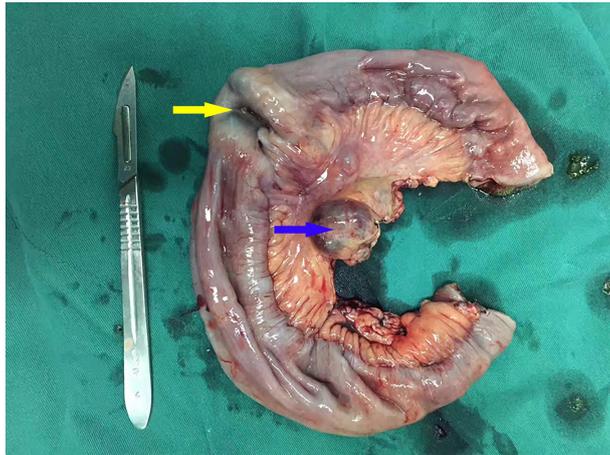


Figure 4.

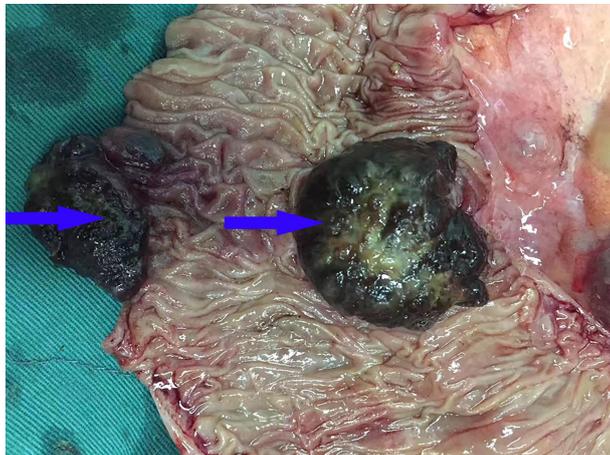
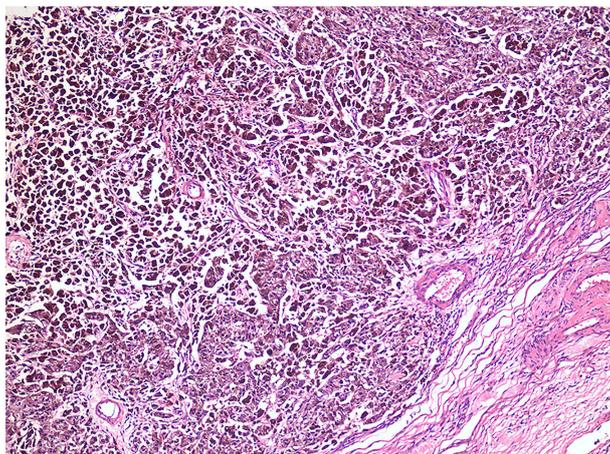


Figure 5.



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