

A rare acute abdomen cause: intestinal perforation and invagination secondary to malignant melanoma metastasis

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Abstract

Malignant melanoma (MM) is a tumor with high metastatic potential. The small intestine is the third most common metastasis area for MM. Intestinal obstruction, intussusception, hemorrhage, and perforation have been determined as the clinical presentation in patients who were admitted to the hospital because of abdominal pain, weakness, constipation, weight loss, and palpable abdominal mass. Presentation as perforation is rarer than the other clinical presentations. We report the case of a patient with metastatic MM, who attended the emergency department because of acute abdomen. Perforation and invagination due to metastatic lesions were cured by surgical intervention. Possible metastasis should be considered in patients with active complaints or in patients scheduled for emergency intervention, as in our case, if there is a history of MM. Possible metastasis should be considered in preoperative planning, information, and anticipation of the operative procedure.

Keywords: Melanoma, Intestinal neoplasms, Intestinal perforation, Intestinal obstruction

Introduction

Malignant melanoma (MM) is a tumor with high metastatic potential. The small intestine is the third most common metastasis area for MM. However, only 5%–6% of patients with intestinal metastatic MM can be diagnosed based on a different clinical presentation [1]. MM in the small intestine usually presents as metastatic disease. In a review, 659 intestinal MM patients were analyzed. Primary small intestine MM was determined only in 16 (2.3%) cases [2]. In our literature review about intestinal MM, the clinical presentation was intestinal obstruction, intussusception, hemorrhage, and perforation in patients who were admitted to the hospital for abdominal pain, weakness, constipation, weight loss, and an abdominal palpable mass. Position emission tomography–computed tomography (PET-CT) scan is a main diagnostic approach [3]. Presentation as a perforation is rarer than the other clinical presentations. We present the case of a patient with metastatic MM who attended the emergency department due to acute abdomen.

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Informed Consent

The authors stated that the written consent was obtained from the patient presented with images in the study.

Conflict of Interest

No conflict of interest was declared by the authors.

Financial Disclosure

The authors declared that this study has received no financial support.

Published

2022 June 26

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Published by JOSAM

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Case presentation

A 43-year-old male patient who was followed for MM that originated from the buccal region attended the emergency department due to abdominal pain and clouding of consciousness. During the emergency examination, tachycardia, sub-febrile fever, and blood pressure of 125/80 mm/Hg were observed. Guarding, rebound in all four quadrants, and general tenderness were noted upon examination. Emergency blood test results showed the following: white blood cells, 6000/mm³; C-reactive protein, 87 mg/L; creatinine, 1.2 mg/dL; and a mild imbalance of blood electrolytes. Multiple metastases were detected in bone and muscle tissue, in inguinal and axillary lymph nodes, and bilaterally in the lungs and brain on PET-CT scan, which had been performed 1 month before hospital admission (Figure 1). There was omental cake in the upper left quadrant, wall thickening in some intestinal segments, and extensive free fluid and air were detected on abdominal CT scan using an intravenous contrast agent, which was performed in the emergency department (Figure 2). The patient underwent surgery with a diagnosis of gastrointestinal tract perforation.

Figure 1: PET-CT image of patient showing metastatic lesions

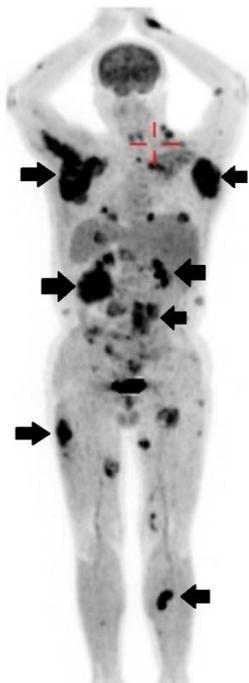
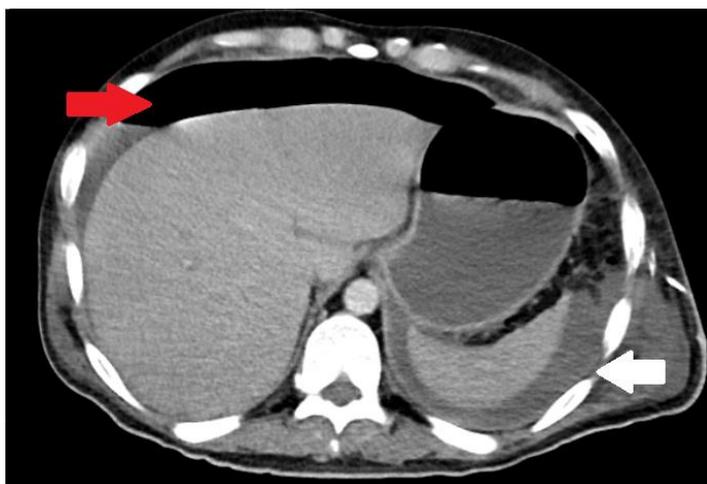


Figure 2: Abdomen CT image of patient. Red arrow shows subdiaphragmatic free air and white arrow shows perisplenic free fluid in abdomen



Extensive intestinal contents were detected in the abdomen during exploration. Tumor-related obstruction, tumor-related perforation, and tumor-related invagination were detected at 160, 180, and 200 cm, respectively, from the Treitz ligament. In the left upper quadrant, the tumoral mass, which was thought to have originated from the omentum, was observed (Figures 3, 4). The intervention was not planned for the tumoral mass due to its proximity to the spleen and pancreatic tail. After a 40-cm segment was resected, a double barrel ileostomy was opened. Surgery was terminated after lavation and debridement.

Figure 3: Omental tumor mass in the left upper quadrant

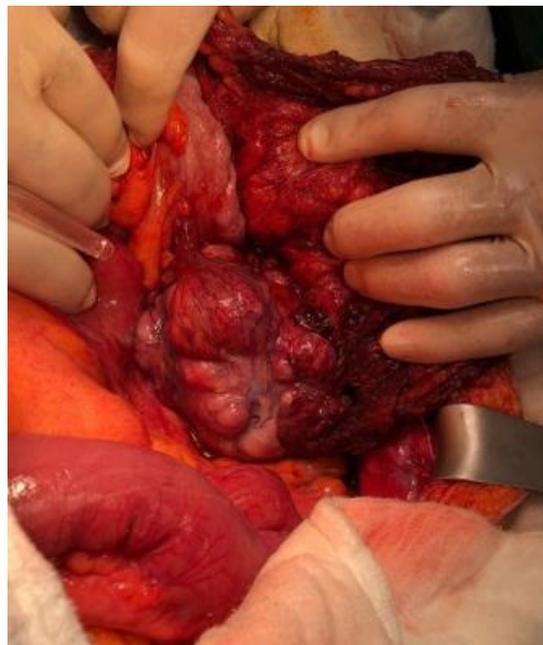


Figure 4: Obstructed, invaginated, and perforated intestinal segments due to metastasis



During the postoperative period, the patient was taken to the intensive care unit for follow-up because he was intubated. Significant acidosis and hypoxia were detected in the arterial blood gas. Electrolyte imbalances and an increase in infection parameters and creatinine levels were detected. The patient, who was under intensive positive inotrope treatment, died due to cardiac arrest on postoperative day 1. After pathological examination, MM metastasis was diagnosed in the resected intestinal segments.

Discussion

MM is a malignancy with a high potential for metastasis in the gastrointestinal tract. Most metastatic lesions are discovered during screening after active complaints or during postmortem examinations. When metastatic lesions have a polypoid character, they may pose a risk for intussusception [1].

Intestinal metastasis was found in 60% of patients who died due to melanoma, and pre-mortem diagnosis was made in only 1.5%–4.4% of patients [3]. MMs with a superficial spread tend to have more intestinal metastasis than the other types of MMs [4]. The prognosis of patients with primary small bowel MMs is worse than for those with intestinal metastasis [5]. Wedge mesenteric resection for lymph node excision is the recommended treatment together with segmental small bowel resection with clean distal and proximal surgical margins [6]. Excision of all metastatic lesions has a positive effect on prognosis in patients with possible intestinal metastatic MM [3]. Possible metastasis should be considered in patients with active complaints or in patients scheduled for emergency intervention, as in our patient, if there is a history of MM.

Conclusions

Physicians who follow-up MM patients should consider abdominal pain in MM patients to be an alarming symptom that may be a sign of abdominal metastasis. Surgeons who encounter MM patients with abdominal pain in the emergency department should be aware of complications associated with abdominal pathology that are relevant to MM. Possible metastasis should be considered in preoperative planning, information, and anticipation of the surgical procedure.

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