

Metastatic Small Bowel Melanoma Presenting as Acute Peritonitis and Respiratory Failure

Konstantinos Bouchagier¹, Solakis Evaggelos¹, Fradelos Evaggelos¹, Romana Constantina², Lakiotis Grigorios¹, Stylianidis Georgios¹

¹2nd Surgical Department of Evaggelismos General Hospital, Athens, Greece

²Anaesthesiologist Department of Evaggelismos General Hospital, Athens, Greece

*Corresponding Author: Bouchagier Konstantinos, 2nd Surgical Department of Evaggelismos General Hospital, Athens, Greece.

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Abstract

Small bowel melanomas are usually metastases from primary cutaneous lesions, however, primary mucosal tumors in the gastrointestinal tract, may develop as well. Perforation of small bowel melanoma is a rare entity. We present an unusual case of small bowel perforation due to multiple melanoma lesions, causing acute peritonitis combined with significant respiratory failure, because of pulmonary emboli, lymph vessels infiltrations and lung metastasis.

Keywords: Metastatic Melanoma; Intestinal Perforation; Small Intestine Melanoma; Melanoma Acute Presentations

Introduction

Symptomatic gastrointestinal involvement of melanoma is a very rare condition (1 - 4%) but a usual autopsy finding in patients with primary cutaneous melanoma [1,5]. The most usual sites of cutaneous melanoma metastasis include the small bowel (50%) due to its rich vasculature, the colon (32%), the anorectum (25%), the stomach (25%) and the oesophagus (5%). Clinically, there might be bleeding (26%), abdominal pain (23%), weight loss (10%) and acute presentation because of intussusception, bowel obstruction and perforation (6%) [1-8]. The survival rate of metastatic melanoma is 5 - 10% at 5 years and 2% at 10 years [9]. We present a case of multiple metastatic cutaneous melanoma in the jejunum that presented with acute peritonitis due to perforation of metastatic lesions and concomitant respiratory failure.

Case Report

A 52 years old female, was admitted to the Emergency department, with acute onset of abdominal pain located on the right iliac fossa, along with nausea and one episode of vomiting. Her abdomen was rigid with diffuse tenderness, positive rebound and absent bowel sounds. Her vital signs were BP = 100/50, SaO₂ = 89% , 97/min and the arterial blood gas showed pH = 7.36, pCO₂ = 34, pO₂ =100, HCO₃ = 20, lac = 14 on a MV 60% mask. She had a past medical history of a skin lesion located on the left shoulder, that had been resected few years ago, with no official pathological report, without post- operative follow-up and no other post-resection treatment. She underwent a chest and abdominal X rays, that showed multiple chest lesions but no subdiaphragmatic presence of free air. CT scan of the abdomen, showed free air presence under the diaphragm, peritoneal infiltrations and oedematous small bowel loops with bubbles of air in their wall, whereas CTPA scan of the chest showed multiple pulmonary emboli of the lungs bilaterally, multiple lung metastasis, diffuse interstitial infiltrations and enlarged lymph nodes of the left axilla and subclavian area. Moreover, the patient had WBCs = 12000 mm³, Hb = 10.3 gr/dl, PLTs = 410.000, CRP = 6.4 mgr/lt. Urgent exploratory laparotomy revealed multiple metastatic melanotic lesions along the small bowel, with perforation having been occurred, in most of them (Figure 1-4). Three palliative segmental enterectomies, were

performed with side to side entero-entero anastomoses. The pathology report spoke about melanoma cells infiltration of the small bowel with Ki67=70%, HMB-45(+), melan-A(+), Sox-10(+), BRAF V600E(-). The patient recovered fine after the operation, despite the significant history of pulmonary emboli to the lungs and the severe septic state. She was discharged from the hospital 13 days after the operation, in good clinical condition and was advised to consult the Oncology department.

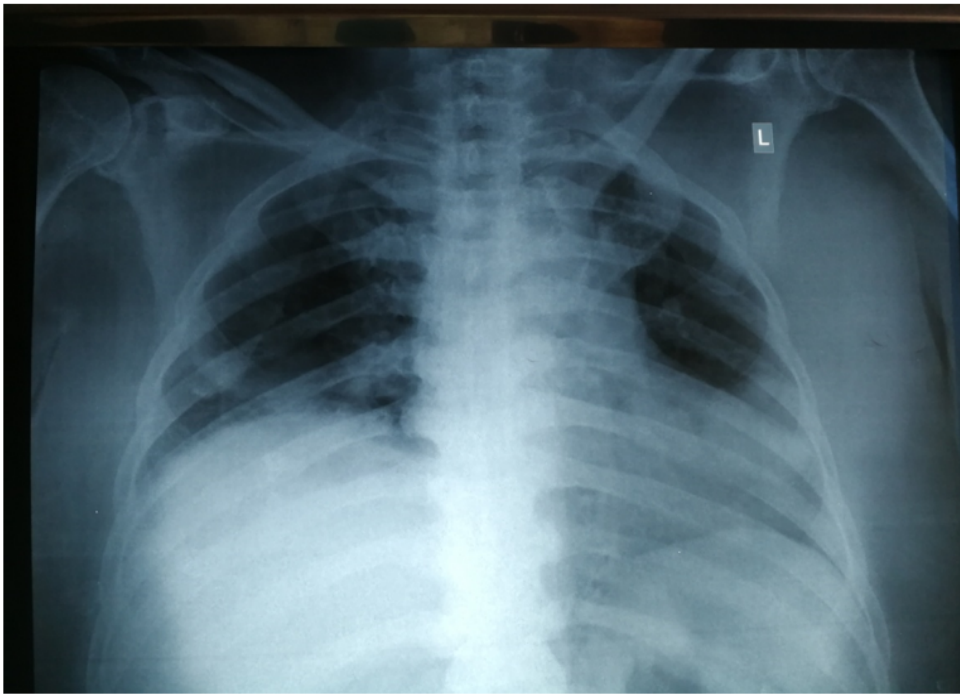


Figure 1: Chest Xray in the A&E department



Figure 2: Abdominal X-ray in A&E department

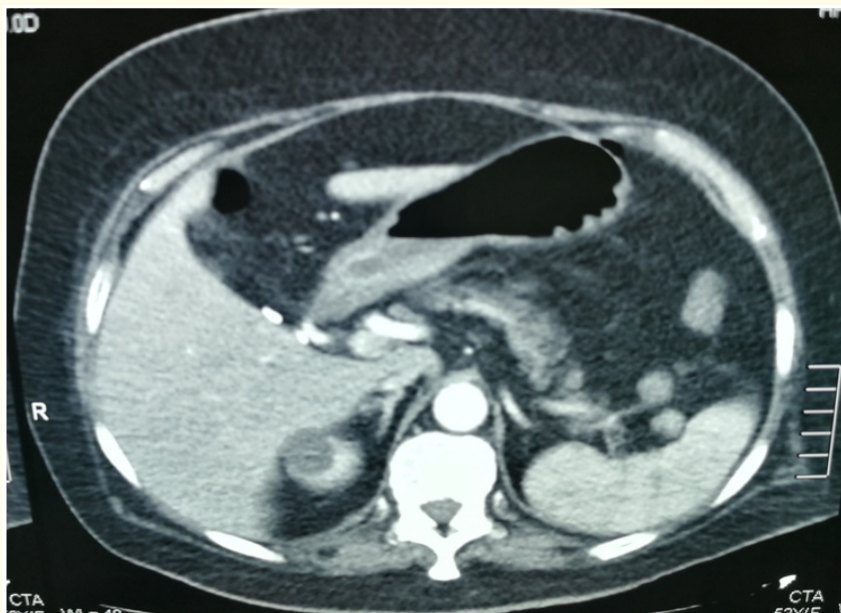


Figure 3: CT scan of the abdomen showing free intra-abdominal air.



Figure 1: Multiple metastatic intestinal melanoma lesions with sites of small bowel perforation.

Discussion

Small bowel melanoma may be metastatic (35 - 97%) or very rarely primary (5%) and varies markedly with regards to its presentation [1-3]. There might be non-specific symptoms like vague abdominal pain, weight loss, gastrointestinal bleeding and anaemia, or there might be acute abdominal presentation due to perforation, intussusception and obstruction. A clear distinction between primary intestinal melanoma and intestinal metastatic deposits may be difficult, if the diagnosis is based mainly on the histopathological features [3]. In our case, we dealt with a patient with acute abdomen and concomitant respiratory failure but no significant past medical history, except from a removal of a skin lesion several years ago, with no histopathological features. We performed a thoracic and abdominal CT scan, that showed multiple metastatic lesions in the lungs with pulmonary emboli, and enlarged axillary lymph nodes, as well as, free peritoneal air due to perforation. Considering the deteriorating septic state and the abdominal CT scan findings, the patient was operated on an emergency basis where, multiple perforated melanotic intestinal lesions were found.

Review of the literature, showed several case reports of acute abdomen, due to intestinal melanotic lesions. However, this is the first case of metastatic melanoma, presenting as acute surgical abdomen, with concomitant significant respiratory failure, in a patient with unknown histologically proven primary lesion. Klausner, *et al.* reported a case of intestinal perforation of a metastatic melanotic lesion and simultaneous intussusception, in a patient with known cutaneous melanoma that was treated surgically [1] whereas, Asad-Ur-Rahman, *et al.* reported a case of duodenal and not intestinal perforation, in a patient with known melanoma that was being treated with anti-CTLA-4 therapy with Ipilimumab at the time of presentation. This monoclonal antibody has been associated with severe adverse effects, including perforation [2]. Yasuda, *et al.* reported a case, concerning a patient with stage IV anal melanoma, treated with anti-PD1 monoclonal antibody Nivolumab, that presented with perforation of the ileum, with no metastatic lesion found on the perforation site. In contrast to our case, the perforation was attributed to severe inflammatory pancolitis caused by Nivolumab and not to a metastatic lesion [4]. Alwhouhayb, *et al.* reported a case of acute abdomen due to melanotic intestinal perforation. This case had similarities to our case report since, there was no officially known primary lesion because a skin lesion, that was removed 15 years earlier, had not been histopathologically examined. Moreover, the patient had multiple metastasis to the liver found intraoperatively, whereas in our case, the patient was found to have lung metastasis and enlarged axillary lymph nodes in CT scan. Finally, in our case the patient had also respiratory failure, due to pulmonary emboli and pulmonary lymph vessels infiltration in contrast to the patient reported by Alwhouhayb, *et al.* [5]. Lianos, *et al.* reported a case of acute metastatic intestinal perforation treated surgically, on an emergency basis. The differences are, the fact that the patient had already known brain metastasis, having been treated with corticosteroids and also, there was no respiratory failure [6]. Gonzalez and DiVita, *et al.* presented two cases of known metastatic cutaneous melanoma with multiple organ metastasis, that had undergone chemotherapy and immunotherapy respectively. During their stay at the oncological unit, they developed acute symptomatic perforation of intestinal melanotic lesions and were treated with urgent laparotomy. Apart from the fact, that they developed this complication during their stay at the oncological unit and while being on a chemotherapy course, there was no respiratory failure compared with our case [9,10]. Rangnekar, *et al.* reported a case of intestinal perforation due to metastatic melanotic lesion. The difference is, that this patient had also a non-perforated GIST tumor two-feet distal to the metastatic melanotic nodule, that had also been resected and also had a previous medical history of lentigo maligna on his right cheek [11]. Atkins, *et al.* presented a case of intestinal perforation on a patient that was receiving BRAF/MEK inhibitors. The interesting fact is that no melanotic intestinal mass was found both in the operation and in histopathology report and Atkins, *et al.* attributed the intestinal perforation to the rapid regression of the metastatic lesion due to BRAF/MEK inhibitors considering the fact that there was no colitis described in the histopathology report, as well [12]. Finally, Welsh and Guercio, *et al.* reported two cases of intestinal perforation of single melanotic lesion, while being on immunotherapy with Vemurafenib and Pembrolizumab respectively, due to secondary deposits to other organs apart from the small intestine [13,14].

Conclusion

To the best of our knowledge, this is the first case report that combines the acute clinical presentation of intestinal perforation of a metastatic melanotic lesion with significant concomitant respiratory failure, owing to pulmonary emboli, lymph vessels infiltration and lung metastasis. Malignant melanoma has been called the "mime of oncology" because of its several presentations. The aim of this case report is, to increase the index of suspicion concerning the diagnosis of metastatic melanoma, especially, in patients with known history of cutaneous melanoma so as to achieve prompt diagnosis and more effective clinical management.

Conflict of Interest

The authors declare no conflict of interest concerning the publication of this article.

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