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Malignant Melanoma of the Stomach

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ABSTRACT

Malignant melanoma with metastasis to the stomach is rare and seldom diagnosed before death. The most common gastrointestinal (GI) metastatic site is the small intestine, followed by the colon, rectum and stomach. We present the case of a 55-year-old woman with a history of melanoma who presented with melena and syncope, and was found to have metastatic gastric melanoma.

LEARNING POINTS

- It is important to consider gastric metastasis in patients with a history of melanoma who present with non-specific abdominal symptoms such as abdominal pain, nausea, vomiting, melena/haematochezia, weight loss and anaemia.
- It is crucial to keep gastric melanoma metastasis as a differential diagnosis in a patient with melanoma due to its aggressive nature and poor prognosis if diagnosis is delayed.
- Appearances can vary greatly at endoscopy, and so immunohistochemistry is vital at histological work-up for the identification of gastric melanoma.

KEYWORDS

Melanoma, stomach, metastasis, biopsy

INTRODUCTION

Although malignant melanoma is known to metastasize to multiple organs of the human body, gastrointestinal (GI) metastases are uncommon and rarely diagnosed before death. The most common GI metastatic site is the small intestine, followed by the colon, rectum, and then the stomach. Clinical manifestations are non-specific and the patient may present with nausea, vomiting, GI bleeding, weight loss and anaemia. If metastasis to the GI tract is suspected, esophagogastroduodenoscopy (EGD), colonoscopy, and, if needed, a small bowel investigation with capsule endoscopy should be performed and a biopsy specimen obtained if a lesion is found. Treatment options include surgical resection, immunotherapy and targeted therapy. The median survival time for melanoma patients presenting with gastrointestinal invasion is less than 1 year[1].

CASE DESCRIPTION

A 55-year-old woman with a history of right eye choroidal melanoma (status post enucleation of the right eye) with metastasis to the liver, bone and lungs and on therapy with daily trametinib for 2 years presented to our hospital with the chief complaints of haematochezia, fatigue, dizziness and abdominal pain for 1 day. She was hypotensive on admission and required fluid resuscitation. Computed tomography angiography (CTA) of the abdomen was performed which showed a small area of active bleeding at the gastroesophageal junction (GEJ). The patient was admitted to the intensive care unit and was started on intravenous proton pump inhibitors, octreotide, and pressor support.

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After admission, she did not report any further episodes of overt GI bleeding.
EGD demonstrated stenosis at the GEJ from a benign-appearing stricture and an associated Mallory–Weiss tear with a visible non-bleeding vessel. Additionally, multiple small, pigmented lesions were visualized in the stomach and biopsied. Microscopic examination of the stomach lesions revealed gastric mucosa with brown-black pigmented epithelioid cells in lamina propria with immunochemistry stain positive for S-100, and MART-1, diagnostic of malignant melanoma (*Fig. 1*).
Following the goals of care discussion, the patient declined further aggressive treatment and transitioned to hospice care.

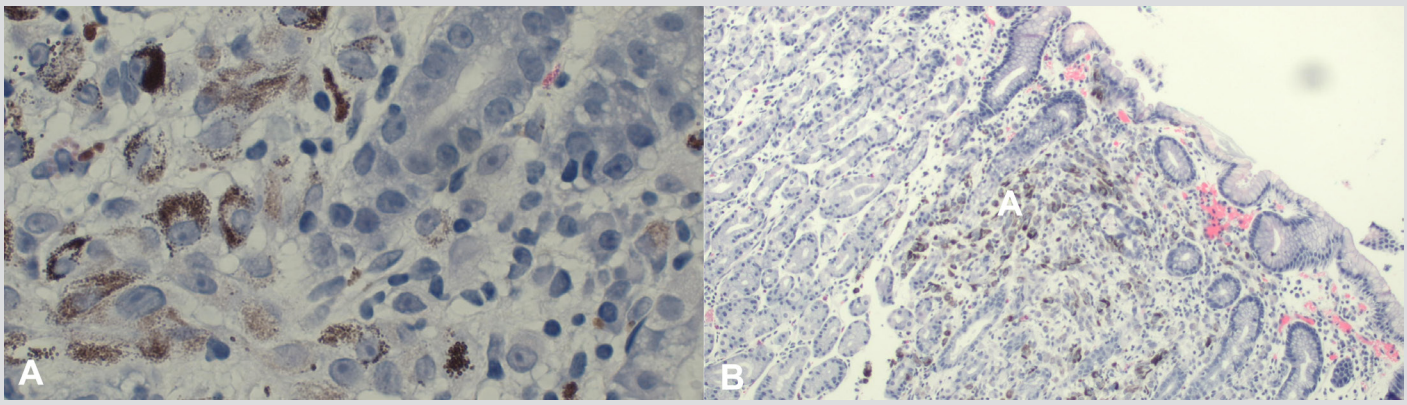

Figure 1. S-100 (A) and MART-1 (B) stains demonstrating brown-black pigmented lesions in lamina propria, diagnostic of malignant melanoma

DISCUSSION

Melanoma is a highly aggressive malignant tumour which starts in melanocytes, predominantly occurs in the skin and has an early tendency to metastasize. It is known to metastasize to different organs with an unusual preference for the GI tract. Common sites in the GI tract include the small bowel (50%), large bowel (31%) and anorectum (25%) [2]. An autopsy series of 216 patients with advanced malignant melanoma at Roswell Park Memorial Institute suggested the following distribution of GI organ metastases: liver, 58.3%; peritoneum, 42.6%; pancreas, 37.5%; small bowel, 35.6%; spleen, 30.6%; colon, 28.2%; stomach, 22.7%; oral cavity and oesophagus, 9.3%; and biliary tract, 8.8%[3]. Similarly, a large review of autopsies from Memorial Sloan Kettering Cancer Center found the GI metastases incidence was: liver, 68%; small bowel, 58%; colon, 22%; stomach, 20%; duodenum, 12%; rectum, 5%; oesophagus, 4%; and anus, 1% [4]. A retrospective review of 230 patients with malignant melanoma found metastasis to the small bowel in 7.4% of cases based on CT scanning [5].
Metastases to the stomach are rare and mostly asymptomatic, and thus evade detection, often not being found until autopsy. Anatomically, the majority are found in the body and fundus, most often at the greater curvature and less commonly at the lesser curvature [6]. Symptoms are non-specific and include weakness, fatigue, GI bleeding, weight loss, anaemia, obstruction, and occasionally acute perforation [2]. The ill-defined symptoms broaden the differential to other conditions that can mimic gastric melanoma, including peptic ulcer disease, gastritis, gastroenteritis, primary gastric carcinomas, and lymphomas. Our patient presented with melena and syncope.
Suspected metastatic melanoma in the GI tract should be investigated using endoscopic evaluation with EGD, colonoscopy and small bowel endoscopy as indicated by clinical presentation, followed by targeted work-up for upper or lower GI tract versus small bowel aetiologies suggested by patient symptoms. The diagnosis is pathologically confirmed by biopsy of the lesions found during the procedure [1]. Three main types of gastric metastases are seen on endoscopy. The first type is melanotic nodules which are often ulcerated at the tip and are the most frequently observed endoscopic features. The second type is submucosal tumour masses, which are elevated and ulcerated at the apex. The third type is mass lesions, with varying incidences of necrosis and melanosis. They may also appear as simple ulcers. Immunochemistry stain positive for S-100, and MART-1 helps to confirm the diagnosis [7].
Treatment for metastatic melanoma includes surgical resection, immunotherapy, targeted therapy, and possibly radiation therapy to symptomatic sites [1]. Multiple organs are often involved, and thus systemic therapy is generally used. Surgery seems to be of limited practical value and is generally not performed unless the patient is a surgical candidate with complications that could be resolved with surgery [8]. Our patient was in a poor condition by the time of diagnosis, complicated with other organ (liver, lung and bone) metastases, and thus surgical treatment was not pursued.

As clinical manifestations of GI metastatic melanoma are usually non-specific, most metastatic melanoma cases have a poor prognosis because of a delay in diagnosis [9]. Due to the rich lymphatic and vascular supply of gastric mucosa, gastric metastases are particularly aggressive. Median survival is usually 4–6 months [8, 10].

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