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Metastatic melanoma of the small bowel. Report of a case and review of literature

AIM: *Malignant melanoma incidence is rapidly growing worldwide. The small bowel is well known to be a preferred site for melanoma metastases. In 60% of patients who died of disseminated melanoma, the gastrointestinal (GI) tract was affected, but only 1% to 4% of GI metastases were clinically diagnosed ante mortem.*
CASE REPORT: *In this case we describe a report of a 71 years old male admitted to the hospital with a combination of two possible complications of GI metastatic melanoma: obstruction and GI bleeding. Past medical history reveals a malignant cutaneous melanoma excised 5 years before.*
DISCUSSION: *Symptoms of small bowel involvement are frequently unspecific which leads to a late diagnosis often made only after complications, such as intestinal obstruction, massive gastrointestinal bleeding and perforation. In most cases, the diagnosis of melanoma metastasis was made only after surgery, which proved to be life-saving. We have searched literature for these complications and their relative treatment.*
CONCLUSIONS: *Modern imaging techniques are recommended in order to obtain an early diagnosis. Surgical resection is the only treatment in patients with resectable metastatic intestinal melanoma.*

KEY WORDS: Acute abdomen, Metastatic melanoma, Small-bowel, Surgery

Introduction

Malignant melanoma frequently spreads to the gastrointestinal tract and, among affected patients, the proportion with involvement of the small bowel ranges from 35% to 70% [1]. In a large review of autopsies, the most frequent sites of GI invasion were, the liver (58-68%), the small bowel (35-58%), the colon (14-31%) and the stomach (5-22%) [2]. In 60% of patients who died of disseminated melanoma, the GI tract was affected, but only 1% to 4% of GI metastases were detected before death. Symptoms of small intestinal involvement are frequently unspecific (abdominal pain, nausea, vomiting, weight loss and weakness) which leads to a late diagnosis often made only after complications, such as intestinal obstruction, massive gastrointestinal bleeding and perforation.

Case Report

A 71-year-old male was admitted to our department complaining of abdominal pain with nausea and vomit, abdominal distension, constipation and anemia. His past medical history included type 2 diabetes mellitus, myocardial ischemia, ischemic stroke with right upper limb hemiplegia. He also had a personal history of superficial spreading melanoma of the scalp treated with surgical excision in another institution 5 years before.
Laboratory examination revealed an increased white blood cell count (WB: 20100 mmc, N:86%) and C - reactive protein (CRP: 14,6mg/dl), high levels of lactate dehydrogenase (LDH:2600 U/L) and an iron-deficiency

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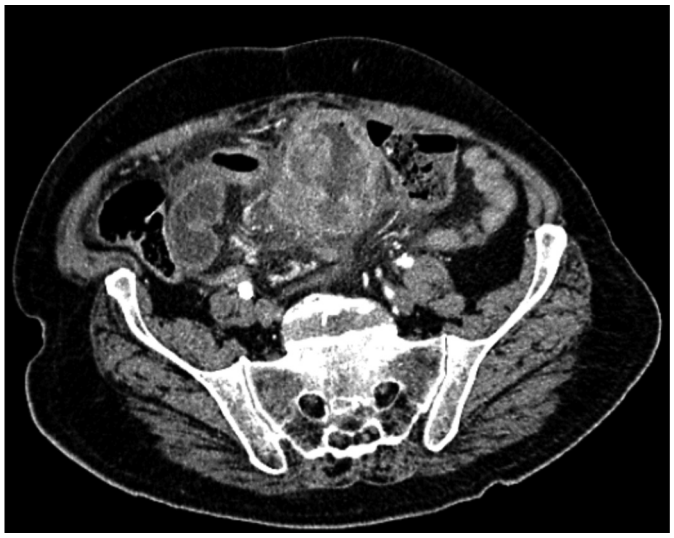

Fig. 1: The abdomen spiral CT scan shows a 77mm small bowel lesion presenting impregnated walls and air in the context.

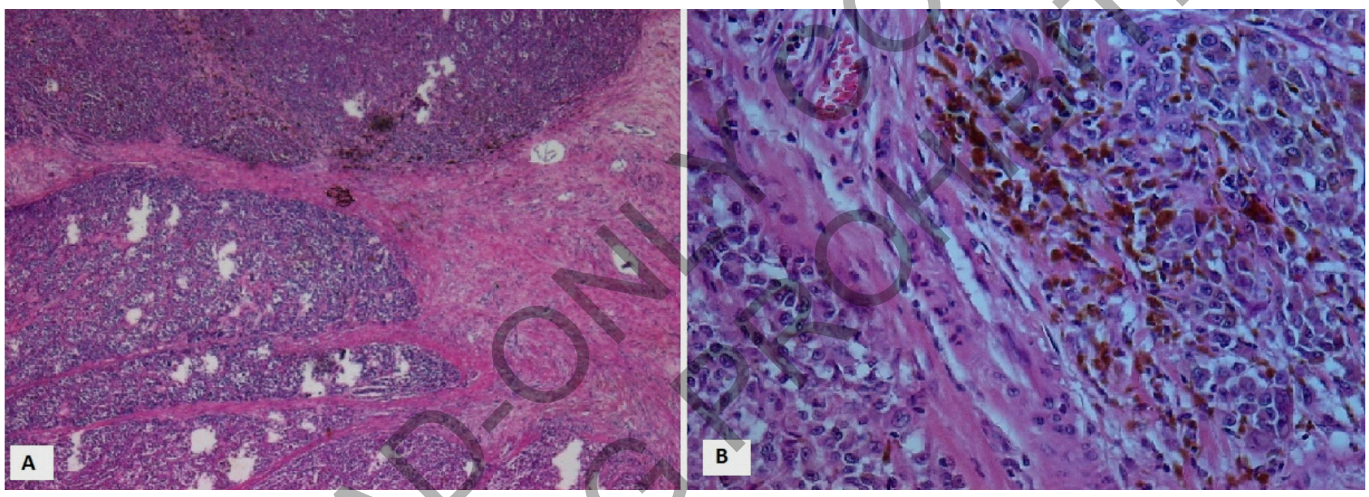

Fig. 2: Histological examination of the ileal mass showed a malignant neoplasia consisting of large epithelioid atypical cells in solid arrangement. Invasion of the mucosa and muscolaris propria of the small intestine by the melanoma cells (A) and atypical neoplastic cells containing melanin pigmentation (B).

anemia. An abdomen and chest spiral CT scan showed a 77mm small bowel lesion presenting impregnated walls and air in the context and multiple colliquated adenopathies arranged in all the mesentery. The mass made contact with the sigmoid colon and the bladder (Fig. 1). There were also two suspicious lesions in the right lobe of the liver and in the lung. During the hospital stay the patient had some episodes of enterorrhagia with distended abdomen and hyperactive bowel sound.

We performed an exploratory laparoscopy, confirming the presence of a stenosing ileal mass and multiple peritoneal lesions tenaciously attached to the sigma. Considered the extension of the neoplastic pathology, we decided to perform a resection of the ileal tract affected by the mass with packaging of a permanent ileostomy. Furthermore, we carried out different biopsies of the lesions on the parietal peritoneum. Histological examination of the ileal mass showed a malignant neoplasia consisting of large epithelioid atypical cells in solid arrangement (Fig. 2). Immunohistochemistry revealed the tumor cells positive for S-100, Melan-A, HMB-45, which was compatible with metastatic melanoma. Tumor markers were negative except for CA 125 (38,90 U/ml) and Neuron Specific Enolase (26 ng/ml). The peritoneal biopsies showed extensive neoplastic infiltration. The patient had a regular postoperative course and was discharged at the 12th postoperative day.

Discussion

Melanoma is a malignant skin tumor with increasing incidence and mortality rates. The distribution of metastases by melanoma is not random, but the pattern of seeding seems to be related to the embryological deriva-

tion of those tissues involved, and the small bowel appears to be a preferred site of metastases [3]. In a large review of autopsies, Blecker et al. affirms that the most frequent sites of GI invasion were, the liver (58-68%), the small bowel (35-58%), the colon (14-31%) and the stomach (5-22%) [2]. Popa et al. claims that the metastatic cells reach the small bowel through the blood stream and initially develop in the submucosa on the mesenteric border [4] . According to the local development various symptoms may occur: the neoplastic mass can erode the mucosa causing gastrointestinal bleeding, or it can develop in the lumen of the bowel causing obstruction, intussussception and in extreme cases even perforation [5]. Multiple lesions throughout the intestinal tract are possible [6,7]. In this case the metastases also reached the parietal peritoneum, the liver and the lungs.

The time frame between diagnosis of primary malignant melanoma and the identification of metastases in a gastrointestinal site varies between 2 and 180 months [8], although it might be present as initial diagnosis in some cases. In this report the time between surgical excision of primary tumor and small bowel metastasis identification was 60 months, which is in agreement with the literature.

Symptoms become evident only when the tumor reaches certain dimensions or erodes the mucosa, causing complications: obstruction, gastrointestinal bleeding or perform [9]. In fact most patients with metastatic intestinal melanoma are asymptomatic and only 1-4% of metastases to the gastrointestinal tract are detected before death [10]. For a long time clinical signs of small intestinal involvement are frequently unspecific (abdominal pain, nausea, vomiting, weight loss and weakness), which leads to a late diagnosis. Metastatic melanomas of the small bowel are often diagnosed when acute and sometimes life-threatening complications occur. Most metastatic melanoma to the GI tract can be manifested with a small bowel intussusception which causes intestinal obstruction [11-12]. Six cases of acute abdomen from intestinal perforation caused by metastatic melanoma have been described in literature [5,13-17]. It is less frequent that this pathology occurs with GI bleeding [6,18,19]. In this report we describe a combination of two complication: obstruction and GI bleeding.

Diagnosis is often delayed due to nonspecific symptoms and most tumors present as a surgical emergency, as in this case.

New achievements in medical imaging may contribute to preoperative diagnosis. Lykke et al claim that the video-capsule is the preferred method when investigating non-stenotic lesions of the small bowel [20]. Probably the best result can be obtained using PET imaging, with a higher sensitivity and specificity than conventional CT [21]. According to Strobel et al, FDG-PET/CT is better method in the detection of melanoma metastases and seems to be superior to conventional imaging methods and PET alone [22]. In this case, surgical treatment was the first means for diagnosis, and also for treating the obstruction and the bleeding.

Management of intestinal melanoma metastasis consists mainly of surgical intervention to resolve the acute obstruction/bleeding and stabilizing the patient. In cases which metastatic lesions are isolated or affect only a limited tract of the small bowel, a metastasectomy can be considered. In fact, complete surgical resection of metastasis can provide an increase in survival. Ollila et al reported that median survival period after complete surgical resection of gastrointestinal metastases was 48,9 months, while only 5,4 months after incomplete resection [23]. For this patient we performed an incomplete resection because the disease was spread to whole peritoneum, to the liver and to the lungs.

Conclusions

Diagnosis of small bowel metastases of melanoma is often late and most patients present an acute abdomen for which urgent surgery is necessary. This should prompt a careful clinical followup of patients with a history of high-risk melanoma who present with GI symptoms. Modern imaging techniques are recommended in order to obtain an early diagnosis. Surgical resection is the only treatment in patients with resectable metastatic intestinal melanoma. Even when curative surgery is impossible because of the extent of the disease, metastases resection should be recommended to relieve symptoms and to avoid future complications.

Riassunto

Il melanoma maligno è una patologia che sta conoscendo una rapida diffusione in tutto il mondo, caratterizzata da tassi di mortalità in aumento negli ultimi 10 anni. La distribuzione delle metastasi dovute a tale malattia non è casuale, anzi, il pattern di diffusione sembra essere correlato alla sua derivazione embriologica: molti studi hanno infatti dimostrato che l'apparato gastro-intestinale è il sito più frequentemente coinvolto dalle metastasi, che difficilmente sono diagnosticate in tempo. Ad oggi, infatti, solo l'1-4% dei casi di metastasi dell'apparato digerente da melanoma viene diagnosticato "ante mortem".

I sintomi di tale localizzazione neoplastica sono spesso aspecifici ed è per questo motivo che la diagnosi viene effettuata soltanto dopo l'insorgere delle complicanze, quali l'ostruzione intestinale, il sanguinamento e la perforazione.

In questa nota viene presentato il caso di un paziente di 71 anni, ricoverato con diagnosi di addome acuto da occlusione intestinale con importante enterorragia. Il paziente 5 anni prima era stato sottoposto ad asportazione di un melanoma cutaneo maligno. La laparotomia

esplorativa ha evidenziato una diffusa disseminazione metastatica con interessamento sia del peritoneo parietale, che di diversi segmenti dell'intestino tenue. A causa della massiva diffusione della patologia neoplastica si è dovuto procedere esclusivamente al confezionamento di una derivazione intestinale a scopo palliativo.
Il mancato riconoscimento dei sintomi legati alla presenza di una diffusione metastatica comporta il ritardo diagnostico nel trattamento delle metastasi dell'apparato digerente da melanoma cutaneo.

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