

## SMALL BOWEL METASTASIS FROM UNKNOWN PRIMARY MALIGNANT MELANOMA AS INCIDENTAL FINDINGS ON ABDOMINAL MRI

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### ABSTRACT

Melanoma of unknown primary site represents 1-8% of all melanomas and can be diagnosed by exclusion after examining all possible origin areas of the primary tumor. We report the case of a young lady referred to receive Magnetic Resonance Imaging (MRI) to investigate suspicious hepatic lesions seen by ultrasound. Three years earlier, the patient underwent left inguinal lymphadenectomy for metastatic melanoma with unknown primary site. No clinical evidence of a primary tumor was found at physical examination (dermatological/ophthalmological) or at gastro-duodenoscopy/ileo-colonoscopy. CT scans performed annually were negative for melanoma lymph node recurrence and distant metastases. At MRI sequences, we excluded the presence of liver metastasis but we identified small bowel metastases from melanoma as incidental findings. The patient has been subjected to exeresis of small bowel lesions and anatomopathological examination confirmed the diagnosis made by imaging. At present, the primary tumor has yet to be identified.

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### 1. Introduction

Melanoma can present various origins (skin, intestinal mucosa, choroid) and different ways of spreading; in 1-8% of cases, melanoma has an unknown origin and it can occur as metastatic localizations.<sup>1</sup>We describe the case of a young woman whom, three years prior, was subject to left inguinal lymphadenectomy for metastatic melanoma with unknown primary site and referred to receive Magnetic Resonance Imaging (MRI) for suspicious hepatic lesions seen by abdominal ultrasound.

### 2. Case report

An asymptomatic 40-year-old woman was referred to receive Magnetic Resonance Imaging (MRI) for suspicious hepatic lesions seen by abdominal ultrasound. Three years earlier, she underwent left inguinal lymphadenectomy for metastatic melanoma with unknown primary site. No clinical evidence of primary tumor was found at physical examination (dermatological/ophthalmological) or at gastro-duodenoscopy/ileo-colonoscopy, excluding the presence of primary ocular or intestinal melanoma. CT scans performed annually were negative for melanoma lymph node recurrence and distant metastases.

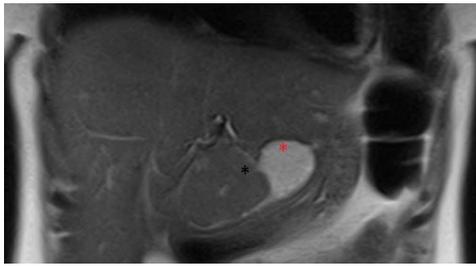
After preliminary sequences for the study of the abdomen (axial and coronal T2-weighted sequences), a suspicious wall thickening of the jejunal loops was evident. Thus, despite that the patient had not performed the appropriate preparation for this exam, we proceeded to perform MRI enterography sequences distending the jejunal and ileal loops with oral administration of enteric contrast media. MRI images excluded the presence of liver metastasis, showing two hepatic angiomas (segments VIII and III), already described at CT scans and a nodular lesion (5 cm in diameter) attributable to focal nodular hyperplasia at segment III, also known (Figure 1). No other hepatic lesions were evident. In correspondence to the proximal jejunal to the Treiz, a pathological wall thickening was extended by 10-15 cm; additionally similar wall thickening and appearance of a nodule in polypoid were present further downstream in the jejunal site. Both the wall thickenings and the polypoid lesion appeared as hypervascularized lesions, hypointense on T1-weighted imaging and hyperintense on T2-weighted imaging, showing signal restriction on diffusion-weighted imaging. MRI findings were suspicious for small bowel metastases from melanoma (Figure 2 and 3).

The patient has been subjected to exeresis of small bowel lesions and anatomopathological examination confirmed the diagnosis made by imaging. At present, the primary tumor has yet to be identified.

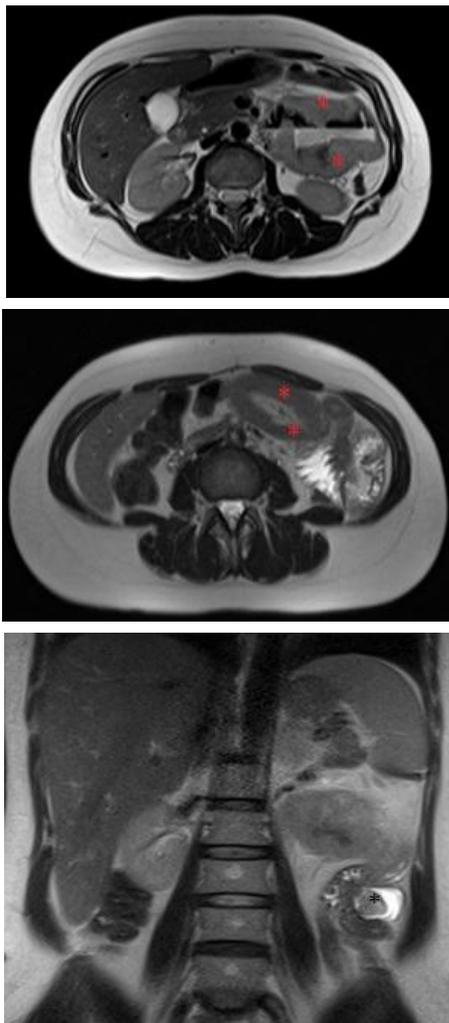
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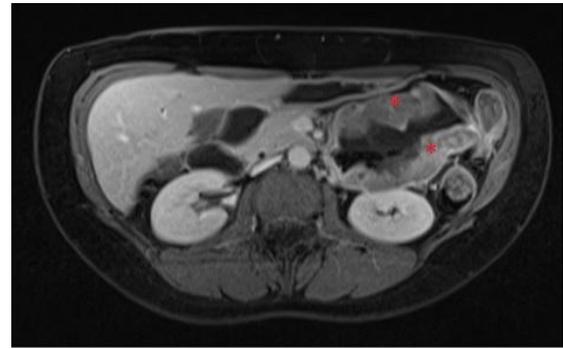
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**Figure 1.** MR coronal T2-weighted image: angioma (red asterisk) and focal nodular hyperplasia (black asterisk) were identified at hepatic segment III.



**Figure 2** A (upper), 2 B (middle) and 2C (lower). MR T2-weighted axial (Panel A and B) and coronal images (Panel C) show hyperintense pathological parietal thickening of jejeunal loops (red asterisk) and an endoluminal polypoid lesion (black asterisk).



**Figure 3.** MR T1-weighted axial image, after intravenous contrast medium: the pathological jejeunal thickening (red asterisk) appears as a highly hypervascularized lesion.

### 3. Discussion and conclusions

Melanoma of unknown primary site represents the 1-8% of all melanomas and can be diagnosed by exclusion, after examining all the possible origin areas of the primary tumor.<sup>1</sup>The gastrointestinal tract may be affected by melanoma as a primitive (extremely rare) or metastatic site; in particular, the small bowel is the most common site of melanoma metastases to the gastrointestinal tract, as being involved in 35-70% of cases.<sup>1,2</sup>

Clinical presentation of small bowel metastasis from melanoma can vary: the patient could report weight-loss (26-84%), chronic abdominal pain (17-64%) or bleeding (10-47%);<sup>3</sup> rarely, the disease onset is acute with intestinal intussusception or bowel perforation.<sup>4</sup>

In most cases, the patient is asymptomatic: in fact, despite the intestinal metastases from melanoma found in up to 60% of autopsies, only 1-4% is discovered during life,<sup>2,4</sup> with considerable delay in the diagnosis.

The role of imaging is crucial, especially in asymptomatic patients, to establish the diagnosis and to start treatment. The small bowel metastases from melanoma can present 4 different aspects to imaging: cavitary, infiltrating, exoenteric or polypoid lesions;<sup>5</sup> furthermore, they are often multiple. Instrumental diagnosis is generally obtained by abdominal CT scans for symptomatic patients, also with acute complications. In addition, it is extremely rare to identify small bowel metastases from melanoma as accidental findings during MRI examination, as in our case.

For these patients, the only valid therapeutic option is surgical therapy<sup>1-2,4</sup> with the indication to carry out removal of the mesentery and perivisceral lymph nodes in addition to metastasectomy. The prognosis remains poor, however, more frequently for the primary intestinal melanoma with an average survival rate of about 15 months.<sup>1,2</sup>Adjuvant systemic therapies such as chemotherapy and immunotherapy have a low rate of therapeutic response.

Our case report shows that secondary localizations of occult melanoma are possible in absence of a primary tumor, even after years.

Though the patient is asymptomatic and with a medical history of melanoma, diagnosis of small bowel metastases from melanoma must not be underestimated.

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