A RARE CASE REPORT OF METASTATIC MALIGNANT MELANOMA OF THE SMALL INTESTINE

LATHA
Department of Pathology,
THANJAVUR MEDICAL COLLEGE

Abstract:
Malignant melanomas involving the Gastrointestinal tract may be primary or metastatic lesions. Mucosal melanomas of the gastrointestinal tract are rare tumors that represent about 1.5 to 2.0 percentage of all melanomas. The overwhelming majority of malignant melanomas involving the GI tract are secondary to metastatic disease. Herein we report a case of metastatic malignant melanoma of the small intestine. The patient is a 56 year old male with previous history of cutaneous melanoma (operated) who then presented with symptoms of acute abdomen two years later. Emergency laparotomy was done and was found to have multiple black polypoid masses in the jejunal mucosa which was proved to be malignant melanoma histopathologically. This case emphasizes the need for a complete clinical assessment and careful work-up of non-specific abdominal symptoms in patients with a past history of cutaneous malignant melanoma, even after years of tumor-free follow-up.

Keyword: "malignant melanoma, small intestine, metastasis"

INTRODUCTION:
Intestinal melanomas can be primary tumors or metastases of cutaneous or ocular melanomas. Cutaneous malignant melanoma is an unpredictable tumor and may metastasize to almost any organ. The recorded postmortem incidence of metastatic involvement of the gastrointestinal tract is 58% for small bowel, 53% for pancreas, 26% for stomach and 15% for gall bladder. Here we report a case of malignant melanoma metastasizing to the small intestine with review of literature.

CASE REPORT:
A 56 year old male presented to the surgical department with complaints of abdominal pain for one month and history of bile stained vomitus, constipation, loss of appetite and melena for 10 days. Two years back he had been operated for a black nodule over his left leg which was reported to be malignant melanoma by histopathological examination.
On examination, abdomen was diffusely tender with rigidity and guarding. In the right inguinal region 4x3cm immobile hard mass was present. A diagnosis of perforation peritonitis was made and patient was taken up for emergency laparotomy.

Peroperatively surgeons found intussusception with perforation of the jejunum and multiple brown black polypoid masses in the jejunal mucosa. Small bowel resection was done and sent for histopathological examination.

Postoperatively ultrasound abdomen was normal and FNAC of the right inguinal lymphnode yielded 2ml fluid which showed metastatic malignant melanoma deposit in lymphnode. The patient had an uneventful postoperative period but was then lost to follow up.

**GROSS** The resected small intestinal specimen measured 12 cm in length. There were numerous brown black sessile polypoid masses measuring 0.5 to 3 cm diameter. The overlying mucosa was ulcerated [Figure 1].

![Figure 1 Gross appearance showing multiple brown black sessile polypoid masses.](image)

**MICROSCOPY**

Light microscopic evaluation of the polypoid mass revealed diffuse proliferation of atypical melanocytes (melanoma cells) within the mucosal lining, in the lamina propria and extending upto the submucosa with adjacent normal jejunal mucosa showing villi lined by columnar cells and goblet cells [Figure 2&3]. The tumor cells were round to polygonal with eosinophilic cytoplasm and diffuse pattern of growth. Nuclei were pleomorphic with prominent nucleoli and there was abundant intracellular as well as extracellular brown black melanin pigment deposition [Figure 4]. With Masson Fontana staining, the melanin granules stained black by reducing ammoniacal silver solution to metallic silver [Figure 5].

![Figure 2 melanoma cells within the mucosal lining with adjacent normal jejunal mucosa. H&E 50X](image)

![Figure 3 Higher magnification showing melanoma cells extending into the lamina propria. H&E 100X](image)
DISCUSSION

Malignant melanoma accounts for only a small percentage (3 -5%) of primary cutaneous malignancies. However melanoma accounts for >50% of cancer deaths from a primary cutaneous malignancy. Malignant melanomas develop from melanocytes which are derived from neural crest cells. The neural crest cells migrate during embryologic development and may be found in noncutaneous sites. Although they usually occur in the skin (cutaneous melanoma), melanomas can occur in any organ in which melanin-containing cells are present 6. Melanocytes are normal residents of the mucous membranes of the upper aerodigestive tract, gastrointestinal, and urogenital tracts 6. These cells give rise to malignant melanomas of the mucous membranes lining the GI tract. Malignant melanomas involving the GI tract may be primary (i.e., anorectum, esophagus, and gallbladder) or metastatic lesions 6. Mucosal melanomas of the gastrointestinal tract are rare tumors that represent about 1.5%–2.0% of all melanomas3,6,7. The overwhelming majority of malignant melanomas involving the GI tract are secondary to metastatic disease.
The interval time between diagnosis of the primary and metastatic disease is variable (average, 7.0 years)\(^6\). Patients with GI metastasis may present with bleeding, anemia, obstruction, abdominal discomfort, pain, and intestinal perforation\(^6\). GI metastases usually appear as multiple polypoid lesions and can be either pigmented or amelanotic and often ulcerated. Less commonly, the presentation is of a solitary melanotic tumor. Metastases to the GI tract can present both at the time of primary diagnosis or years later as the first sign of recurrence.

Metastatic melanoma has been observed in almost all regions of the human body. The most common sites of metastases were the lymph nodes (74%) and lungs (71%), followed by the liver (58%), brain (55%), bone (49%), adrenal glands (47%), and GI tract (44%), but only 1% to 4% of them are diagnosed antemortem\(^4\). Two large autopsy studies which looked at the distribution of metastases in the GI tract are from the Roswell Park Memorial Institute and Memorial Sloan Kettering Cancer Center. The distribution of GI organ metastases in both series was as follows: liver, 58–60%; peritoneum, 43%; pancreas, 38%; small bowel, 36–58%; spleen, 31%; colon, 22–28%; stomach, 20–23%; duodenum, 12%; rectum, 5%; esophagus, 4%; biliary tract, 9%\(^1,4\). Small bowel metastatic melanomas are generally clinically undetectable in the early stages. Diagnosis is therefore often delayed and is made only when complications occur as in our case, where the patient presented with acute intestinal obstruction. The tumors may occur in adults of any age, with an average of 54 years (range, 26-81 years). There is a slight preponderance of the male gender with a male-to-female ratio of 1.4 : 1. The incidence of gastrointestinal metastatic melanoma presenting in living patients is low. Das Gupta & Brasfield\(^2\) (1964) have reported only nine cases in their series of one thousand melanoma patients. Post-mortem studies, however, demonstrated a much higher incidence of intestinal involvement.

Xi Shan Hao et al\(^8\) reported three patients with malignant melanoma involving the small bowel in Tianjin Medical University Cancer Hospital from 1989 to 1996. The three cases of malignant melanoma that metastasized to the small bowel were operatively resected and confirmed by histopathology.

Kelly V. Liang et al\(^5\) reported 2 cases of malignant melanoma that metastasized to the Gastrointestinal tract. The first case presented with metastases in the gastric fundus and jejunum following superficial spreading melanoma of the back. The second case presented with cerebellar and stomach metastases following ocular melanoma. The prognosis of metastatic GI malignant melanoma is very poor with a 5-year survival of less than 10%. However, with surgical resection there may be a possibility of long-term, disease-free survival. In summary, this case emphasizes the need for a complete clinical assessment and careful work-up of non-specific abdominal symptoms in patients with a past history of cutaneous malignant melanoma, even after years of tumor-free follow-up.
REFERENCES


5 Kelly V. Liang, MD; Schuyler O. Sanderson, MD; Grzegorz S. Nowakowski, MD; and Amindra S. Arora, MBBCHIR, Metastatic Malignant Melanoma of the Gastrointestinal Tract. Mayo Clin Proc. 2006;81(4):511-516.


8 Xi Shan Hao, Qiang Li and Hua Chen, Small Bowel Metastases of Malignant Melanoma: Palliative Effect of Surgical Resection, Jpn J Clin Oncol 1999;29(9) 442-444.