Primary Bowel Malignant Melanoma with Ileo-Ileal Intussusception

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Primary malignant melanoma of the small bowel is extremely rare. A limited number of cases was described in the specialty literature. The small bowel is most frequently affected by metastatic tumors of other primary lesions, especially epidermal. We report the case of a 77 years old male patient with primary bowel malignant melanoma, diagnosed histologically and immunohistochemically after segmental ileal resection. It was not discovered a primary lesion atskin, eye, anus and rectum levelor with other localization, through the investigations performed after surgery.

Key words: malignant melanoma, intussusception, small bowel

Small bowel malignant melanoma is rare and represents 1 - 3% of all malignant tumors of gastrointestinal duct (1). Most of these tumors are secondary lesions of a primary localization of the skin, anus, rectum or eye (2).

The symptomatology is usually unspecific and can vary from abdominal pains (17 - 64%), occult hemorrhages (24 - 84%) and weight loss (10 - 57%) [3]. The diagnostic is usually late, in the complication stage, when the disease becomes an emergency, like intestinal hemorrhage, obstruction and perforation [4].

No matter its primary or secondary character, bowel melanoma remains aggressive, with unsatisfactory prognostic, as compared to other situses. The average global survival is from 4 up to 6 months, with a survival rate smaller than 10% in 5 years [5, 6].

Experimental part

Material and method

A 77 years old patient from urban environment is admitted to Surgery Clinic II, Sf. Ap. Andrei Emergency Clinical Hospital, Galati, for diffuse abdominal pains, melena, slow bowel movement for feces and gases, weight loss, marked physical asthenia, which had started insidiously 1 month ago. At the admission to hospital, the laboratory explorations had observed the following pathological modifications: WBC 14890/mmc, Hb 8.9 g/dL, Ht 28.10 %, PLT 723000/mmc, urea 41 mg/dL.Plain abdominal radiography without changes;the abdominal ultrasound highlighted intestinal loop with reduced peristaltic. Superior and inferior digestive endoscopy did not find the existence of a tumor formation, the tumor markers being in normal limits. After a preliminary hematic rebalancing, it was decided to perform exploratory laparotomy, during which jejunal and ileal disseminated tumors, entero-enteral intussusception had been observed. Minimum segmental enterectomy, desintussusception was performed for biopsy. His evolution after surgery was favorable, the patient being released from hospital after 12 days from the surgery. The conventional histopathological exam in the standard coloration, hematoxylin-eosin (H&E), was performed in 6 blocks included in paraffin, which included fragments of small bowel, presenting at submucous level, with mucosa muscular compliance, focally with protrusion in the lamina propria, with mucosal ulceration, a malignant tumor proliferation with architecture under the form of compact strands and marginal nests composed of epithelioid cells with moderate and focally marked nuclear pleomorphism, frequent mitotic figures and frequent apoptosis, with moderate inflamed peritumoral lymphocytic infiltrate, with area-associated macrophages, some pigmented (melanophages). Intravascular-lymphocytic tumor emboli (LV1) was detected and perineural invasion (Pn0) was not detected.

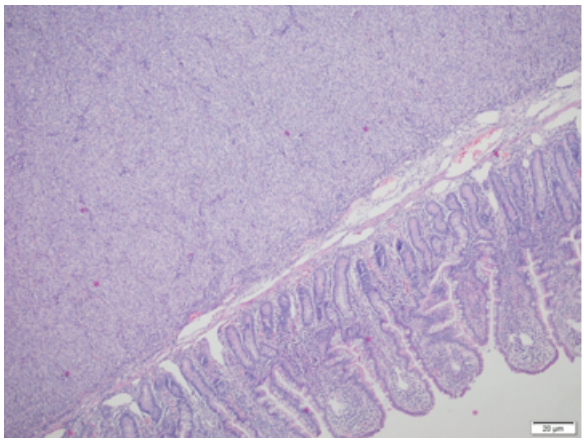

Fig. 1.Malignant melanoma at intestinal submucosa level, without invasion of mucosa musculature and mucosa, H&E, objective 4X

The immunohistochemical complementary tests (IHC) revealed the following: melanocytic markers HMB45, Melan A, MITF, S100 had positive, diffuse reactions in tumor proliferation; the Ki67 proliferation index was positive in about 95% of the tumor cells, indicating intense mitotic activity, CK8 / 18 - absent reaction in tumor proliferation, positive in the intestinal epithelium excluding adenocarcinoma diagnosis, CD45 - absent reaction in tumor cells, positive in intra- and peritumoral lymphocytes, excluding lymphoma diagnosis, c-KIT - membrane reaction with low and moderate intensity in about 30% of

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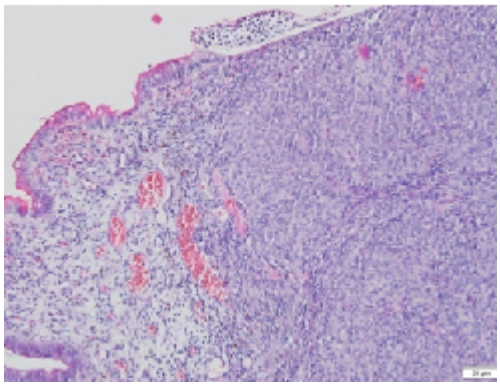

Fig. 2.Tumor invasion at laminapropria level, with ulceration of the mucosa, H&E, ob. 10X

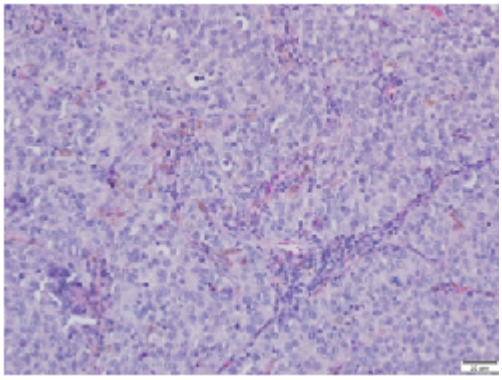

Fig. 3.Compact ranges of epithelioid tumor cells, with moderate nuclear pleomorphism, with mitotic figures, lymphocyticperitumoralinfiltrate, H&E, ob. 20X

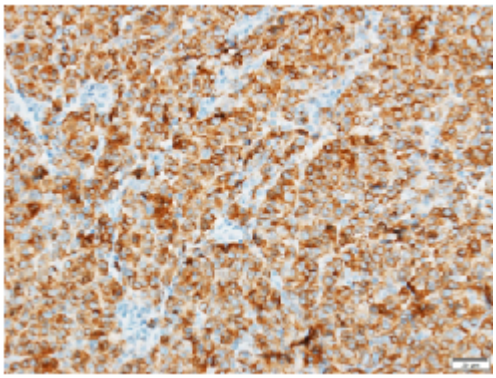

Fig. 4. HMB45 - strong membrane marking, diffuse in tumor proliferation, ob. 20X

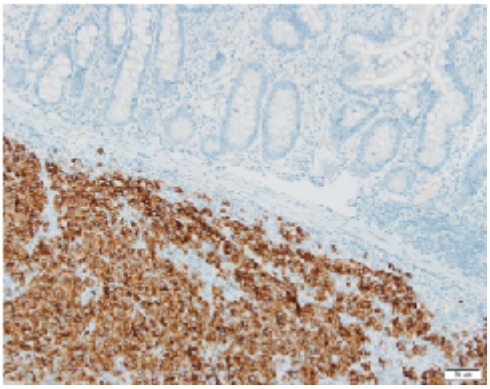

Fig. 5. Melan A –intense positivecytoplasmatic marking, diffuse in tumor proliferation, negative in intestinal mucosa, ob. 10X

tumor cells, excluding gastrointestinal stromal tumor diagnosis.

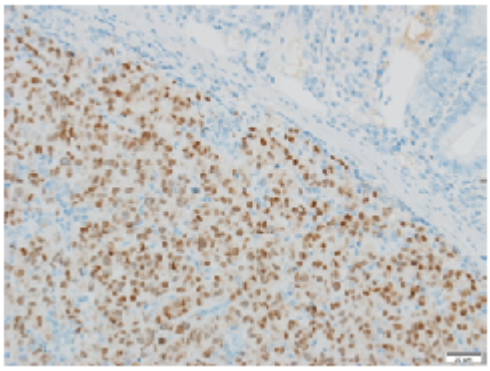

Fig. 6. MITF –positivenuclear marking in tumor cells, negative in intestinal mucosa, ob. 20X

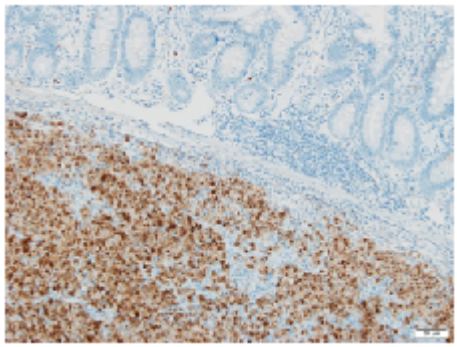

Fig. 7. S100 -positive nuclear andcytoplasmatic marking in most of tumor cells, negative in intestinal mucosa, ob. 10X

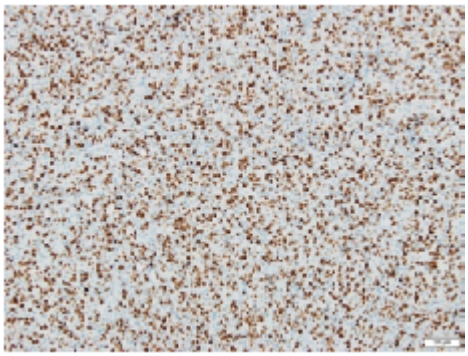

Fig. 8. Ki67 - positive nuclear marking in around 95% of tumor cells, negative in intestinal mucosa, ob.10X

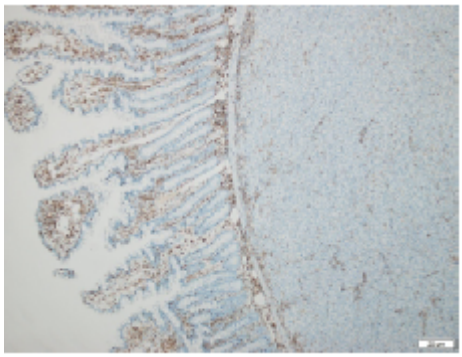

Fig. 9. CD45 - negative in tumor cells, positive in peritumoral lymphocytes and in the lymphocytes from lamina propria, ob. 4X

Thus, histopathological diagnosis was established: multiple intestinal malignant melanoma determinations with epithelioid cellularity, with present lymphatic invasion (LV1) with HMB45 +, Melan A +, S100 +, MITF + immunophenotype.

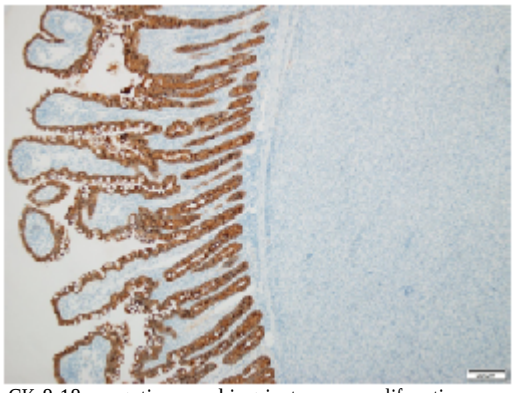

Fig. 10. CK 8-18 -negative marking in tumor proliferation, positive in epithelial cells of the mucosa, ob. 4X

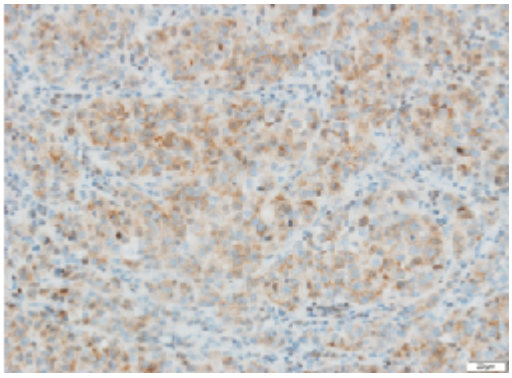

Fig. 11.c-KIT - membrane reaction of low and moderate intensity in about 30% of tumor cells, ob. 20X

Results and discussions

Normally, the small bowel and the colon do not contain melanocytes. Embryonically, they appear from the neuronal melanoblasts that migrate to distal ileum through the umbilical-mesenteric tract [7, 8]. They differentiate by Amine Precursor Uptake and Decarboxylase (APUD), and may undergo neoplastic transformation in non-cutaneous situses [9]. According to this theory, the ileum is the most common situs for the development of primary melanoma of the small bowel, although some authors still deny the primary existence of melanoma in the gastrointestinal tract.

Some researchers believe that all melanomas of the GI tract would be metastatic in origin[2,10,11]. This opinion is based on the fact that some epidermal melanomas can regress spontaneously [9,12].

Before diagnosing malignant melanoma of the small bowel, it is important to exclude other primary melanomas in other situses. The criteria for the diagnosis of primary melanoma include: the absence of other melanomas in primary situses and without history of atypical melanocytic lesions at skin, retina, anal tract level and occasionally at penis, esophagus or vagina level [1, 2].

In order to determine if malignant melanoma of the small bowel is a primary lesion, Sacks et al. [13] established three diagnostic criteria: i) single lesion, ii) other organs without primary lesions and absence of lymph ganglion enlargement, and iii) survival time over one year after diagnosis. [14]. In another study, Blecker and et al.[15] proposes the following criteria for the diagnosis of primary intestinal melanoma of the small bowel: i) the presence of a solitary mucosal lesion in the intestinal epithelium ii) the absence of melanoma or atypical skin melanocytic lesions and iii) the presence of intramuscular melanoma lesions in the upper or adjacent intestinal epithelium.

Histological criteria for highlighting the primary melanoma are the proliferation of atypical junctional melanocytes and atypical melanocytic cells in the basal layer of the surface epithelium. Other indications of primary lesions are the presence of peritumoral lymphocyte infiltration [3, 16].

24 cases of primary malignant melanoma [1, 2, 6, 17-35] have been reported in the specialty literature, according to the criteria proposed by Sacks et al. All cases described in the literature present a broad age range of patients, with the highest prevalence in those over 40 years of age.

Conclusions

Primary malignant melanomas of the small bowel are extremely rare neoplasms. They are solitary, endoluminalmasses with aggressive clinical progression and poor prognosis. Surgical resection is essential to improve the prognostic.

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