

Scientific Journal of the Faculty of Medicine in Niš 2011;28(3):189-193

Case report ■

Ileo-Ileal Intussusception Caused by Metastatic Deposits in the Small Intestine in Patients with Malignant Melanoma

Gjorgji Jota, Zoran Karadzov, Milčo Panovski, Nenad Joksimović, Andrijan Kartalov,
Radomir Gelevski, Vladimir Joksimović

University Clinic for Digestive Surgery - Skopje, Macedonia

SUMMARY

Malignant melanoma presents unusual predilection for metastasizing in small intestine, becoming one of the most common malignancies that metastasize in small intestine. Intestinal metastases can be identified at the moment of primary disease or later, as a first sign of recurrence.

We report a case of malignant melanoma metastatic to the GI tract. A 45-year-old woman underwent the resection of superficial spreading melanoma in his lumbar region seven years before. Metastatic deposit in the left suprarenal gland was diagnosed and laparoscopically removed one year prior to admission. Abdominal CT scan showed indurated and distended small-intestinal loops with several intraluminal tumorous formations and small bowel intussusceptions. Resection of the involved segment of the small intestine in total length of 1.5m with tumorous formations as well as the intussuscepted segment was performed.

Patients operated for malignant melanoma of the skin with gastrointestinal symptoms, anemia or melaena should be suspected for metastatic deposits in the small intestine. Malignant melanoma metastases in the bowel are more common than one might think. Increased awareness of the problem may lead to earlier diagnosis and better surgical results.

Key words: malignant melanoma, metastatic deposits, intussusception, ileo-ileal anastomosis

Corresponding author:

Gjorgji Jota •

tel. +38978-456-171 •

e-mail: jotamak@hotmail.com •

INTRODUCTION

Malignant melanoma presents unusual predilection for metastasizing in small intestine, becoming one of the most common malignancies that metastasize in small intestine.

Metastases are more frequently found in the mesentery and distal small bowel than in the proximal gastrointestinal tract or in the colon.

Antemortem diagnosis of metastatic deposits in the small intestine is made in only 1,5% to 4,4% of all patients with melanoma (1-3). However, melanoma represents about one third of all metastatic disease cases to the gastrointestinal tract (4) and is found in 58% of postmortem specimens from patients with melanoma (2).

Intestinal metastases can be identified at the moment of primary disease or later, as a first sign of recurrence. Traditionally, surgical intervention for metastatic lesions to the GI tract has been reserved for symptomatic lesions producing obstruction or bleeding. Symptoms may include abdominal pain, dysphagia, small bowel obstruction, hematemesis and melena.

CASE REPORT

History: A 45-year-old woman presenting with intermittent colicky abdominal pain, lasting for 1.5 months, was admitted for ileus. Seven years before the admission she had been operated because of malignant melanoma of the skin in the lumbar region. The pathohistological examination of the specimen provided by operation showed superficial spreading subtype of malignant melanoma. Metastatic deposit in the left suprarenal gland was diagnosed and laparoscopically removed one year prior to admission. Metastatic deposit in the brain was successfully treated with gamma knife radiosurgery.

Findings upon admission: On admission the patient was febrile (38.5°C), with mild diffuse abdominal tenderness and distension, above the level of the thorax, palpable mesogastric tenderness and lobar pneumonia. Dominant symptoms included intensive vomiting and absence of stool and flatus. Digital rectal examination (DRE) was within normal parameters. Laboratory examination revealed leukocytosis (29.9 10⁹/L) and trombocytosis (686 10⁹/L) as well as reduced levels of sodium (131mmol/L) and potassium (3.2mmol/L). Plain X-ray examination of the abdomen displayed aero-liquid levels. Abdominal CT scan showed indurated and distended small-intestinal loops with several intraluminal tumorous formations and small bowel intussusceptions (Figure 1, Figure 2).

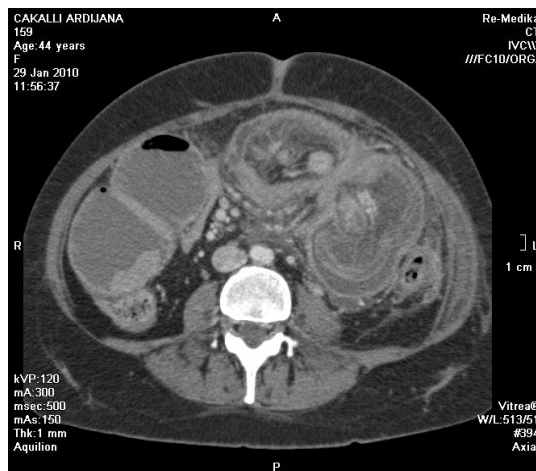


Figure 1. Abdominal CT showing indurated and distended small intestinal loops



Figure 2. Several intraluminal tumorous formations and small bowel intussusceptions

Operative findings: A mid-line laparotomy was performed, and upon exploration we discovered distended small intestinal loops with small bowel intussusception. Small bowel exploration confirmed 16 tumorous formations as dark-colored polyps diversing in size from 0,5 cm to 3 cm. Resection of the involved segment of the small intestine in total length of 1.5 m with tumorous formations as well as the intussuscepted segment was performed (Figure 3). The continuity of the intestinal tract was provided by end to end ileo-ileal anastomosis.



Figure 3. Resected segment of small intestine

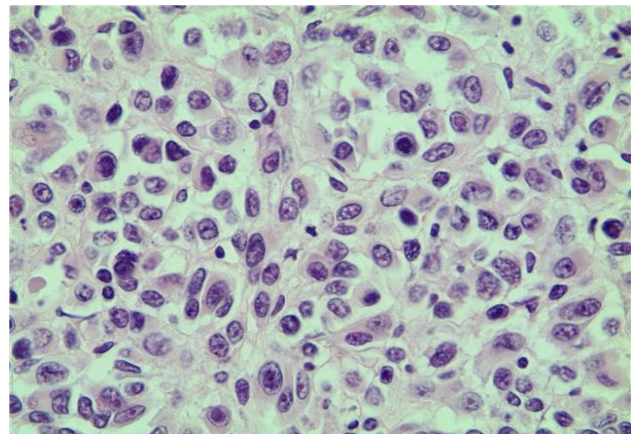
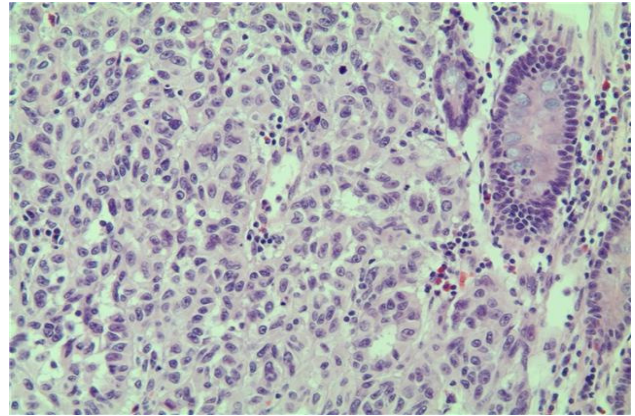
There was no evidence of other neither abdominal nor hepatic metastatic deposits. Postoperative period was burdened by massive bilateral bronchopneumonia, successfully managed. Surgically, the postoperative period was regular. Eight months after the surgery, the patient showed no sign of recurrence of the disease and had normal quality of life.

DISCUSSION

Metastatic deposits of malignant melanoma in the GI tract are characterized by lymphocytic infiltration with melanophages, vascular proliferation and reparative fibrosis (Figures 4-5.).

Malignant melanoma of the gastrointestinal tract can be manifested as a primary entity or in a form of metastatic deposits. Primary melanoma of the GI tract can be manifested on several locations starting from the mouth through esophagus, small intestine, colon to anorectum in absence of prior cutaneous melanoma. It is rarely detected in early stage, displays aggressiveness and has poor prognosis. It appears to be difficult to make clear distinction between primary melanoma of the GI tract and metastatic deposits.

Metastatic melanoma is one of the most common malignancies associated with spread to the GI tract (6). Superficial spreading melanoma is the most common subtype to metastasize to the GI tract (7). They usually appear as multiple ulcerated polypoid lesions and may be either pigmented or amelanotic. Metastases may present both at the time of primary diagnosis or decades later as the first sign of recurrence. The metastases of malignant melanoma are notorious for appearing many years after primary form and for their myriad clinical manifestations (8). Symptoms often mimic those of other GI tumors, including abdominal pain, fatigue, dysphagia, constipation, tenesmus, small bowel obstruction, perforated bowel, hematemesis, melena and anemia. Progressive jaundice and melanotic stools are reported in very rare metastatic site to the ampulla of Vater (9).



Figures 4-5. Microscopic structure of sample from the tumorous formation

Diagnosis of metastatic melanoma is generally made by radiographic contrast studies, including CT, ultrasonography and barium studies, and endoscopic evaluation including EGD, ERCP and colonoscopy.

The use of FDG PET/CT has a large clinical impact on patients with melanoma. This method has been utilized in some institutions as the method of choice for detecting and differentiating metastases in areas otherwise inaccessible by physical examination and biopsy.

The prognosis of patients with metastatic malignant melanoma is poor. Mean survival of patients with systemic metastases from melanoma is 6 to 8 months (7).

Important factor having an impact on survival is the initial site of stage IV disease (1). Patients whose initial site of metastatic disease is in the GI tract have better prognosis than patients that developed extraintestinal metastases prior to GI tract involvement. According to site-specific metastasis theory, certain tissues are preferentially colonized by specific tumor cells. In 75% of patients with melanoma and nodal metastasis and in certain patients undergoing resection of a primary melanoma, circulating melanoma cells can be demonstrated using multimarker polymerase chain reaction assay (5). These circulating melanoma cells are believed to be shedded from a primary cutaneous melanoma into the bloodstream. To establish successful metastasis, the

circulating tumor cell must possess a site-specific adhesion molecule that allows it to bind to the luminal surface of the vascular endothelium. It must also be able to degrade the extracellular components of the endothelial basement membrane of the site specific organ and gain entry into interstitial space of that organ. The tumor cell must respond favorably to organ-specific growth factors that allow it to induce angiogenesis and thereby produce a neovasculature to support the growing metastasis.

Gastrointestinal tract metastases are invariably submucosal in origin, and the predominantly arise in the small bowel.

Patients with metastatic melanoma to the gastrointestinal tract may benefit from curative resection and, therefore, it is of great importance that the diagnosis be made at an early stage of the disease.

CONCLUSION

Patients operated for malignant melanoma of the skin with gastrointestinal symptoms, anemia or melaena should be suspected for metastatic deposits in the small intestine. Malignant melanoma shows unusual predilection of metastasizing in small bowel. Diagnosis is made upon meticulous inspection of the mucosa for presence of metastatic changes and biopsy with special immunohistochemical staining (HMB-45, S100). Prognosis is poor, with a median survival of only 6 to 8 months.

Malignant melanoma metastases in the bowel are more common than one might think. Increased awareness of the problem may lead to earlier diagnosis and better surgical results.

References

1. Ollila DW, Essner R, Wanek L, Morton DL. Surgical Resection for Melanoma Metastatic to the Gastrointestinal Tract. *Arch Surg* 1996;131:975-80.
2. Das Gupta TK, Brasfield RD. Metastatic melanoma of the gastrointestinal tract. *Arch Surg* 1964; 88:969-73.
3. Reintgen DS, Thomson W. Radiologic, endoscopic, and surgical considerations of melanoma metastatic to the gastrointestinal tract. *Surgery* 1984;95:635-39.
4. Washington K, McDonagh D. Secondary tumors of the gastrointestinal tract: surgical pathologic findings and comparison with autopsy survey. *Mod Pathol* 1995;8: 427-33.
5. Hoon DSB, Wang Y, Dale PS, et al. Detection of occult melanoma cells in blood with a multiple-marker polymerase chain reaction assay. *J Clin Oncol* 1995;13: 2109-116.
6. Schuchter LM, Green R, Fraker D. Primary and metastatic disease in malignant melanoma of the gastrointestinal tract. *Curr Opin Oncol* 2000;12:181-5.
7. Liang KV, Sanderson SO, Nowakowski GS, Arora AS. Metastatic Malignant Melanoma of the Gastrointestinal Tract. *Mayo Clin Proc* 2006;81(4):511-6.
8. Fraser-Moodie A, Hughes RG, Jones SM, Shorey BA, Snape L. Malignant melanoma metastases to the alimentary tract. *Gut* 1976;17:206-9.
9. Meyers MO, Frey DJ, Levine EA. Pancreaticoduodenectomy for melanoma metastatic to the duodenum: a case report and review of the literature. *Am Surg* 1998;64:1174-6.

ILEO-ILEALNA INTUSUSCEPCIJA IZAZVANA METASTATSKIM DEPOZITOM U TANKOM CREVU KOD BOLESNIKA SA MALIGNIM MELANOMOM

Gjorgji Jota, Zoran Karadzov, Milčo Panovski, Nenad Joksimović, Andrijan Kartalov, Radomir Gelevski, Vladimir Joksimović

Univerzitetska klinika za digestivnu hirurgiju - Skoplje, Makedonija

Sažetak

Maligni melanom predstavlja neobičnu predilekciju za metastaziranje u tankom crevu i jedan je od najčešćih oblika maligniteta koji metastaziraju u tankom crevu. Intestinalne metastaze se uočavaju u vreme javljanja primarne bolesti ili nešto kasnije kao prvi znak pojave recidiva.

U radu je prikazan slučaj malignog melanoma koji je metastazirao do gastrointestinalnog trakta. Sedam godina pre ponovnog dolaska, četrdesetpetogodišnja bolesnica je podvrgnuta resekciji melanoma koji se površinski širi u lumbalni deo. Metastatski deposit u levoj suprarenalnoj žlezdi je dijagnostifikovan i laparoskopski uklonjen godinu dana pre prijema. CT abdomena je pokazao otvrdle i proširene petlje tankog creva sa nekoliko intraluminalnih tumorskih formacija i intususcepcijom tankog creva. Urađena je resekcija zahvaćenog segmenta tankog creva sa tumorskim formacijama u dužini od 1.5 m kao i intususcepcija segmenta.

Kod bolesnika koji su operisani zbog malignog melanoma kože sa gastrointestinalnim simptomima, anemijom ili melanom trebalo bi posumnjati na postojanje metastatskih depozita u tankom crevu. Metastaze malignog melanoma creva mnogo su češće nego što se misli. Povećana svest o postojanju problema doprinosi ranijem dijagnostifikovanju i boljim hirurškim rezultatima.

Ključne reči: maligni melanom, metastaze, intususcepcija, ileo-ilealna anastomoza