Advances in Life Science and Technology
ISSN 2224-7181 (Paper) ISSN 2225-062X (Online)
Vol.52, 2017

Primary Gastric Melanoma

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Introduction

Melanoma represents 1-3% of all malignant cancers and typically appears in sites where melanocytes are commonly found, including the skin, eyes, meninges and anal region, most commonly in the rectum and sigmoid colon(1).

Most melanomas found in the stomach are metastases from cutaneous sources.

According to a clinicopathologic analysis of 652 patients with disseminated disease, 58% demonstrated small bowel metastases upon autopsy, 26% were found to have gastric metastases,but only 1.5% were identified to have any gastrointestinal lesions antemortem[3,4]. Primary gastric melanoma is a rare entity with 11 cases reported worldwide(2).

Primary gastric melanoma is underdiagnosed, it's symptoms and signs are nonspecific and specific staining techniques must be used to confirm the diagnosis. Therefore thorough physical examination, laboratory studies and imaging are required to rule out metastatic disease in the setting of metastatic melanoma

We have a case of a man N.K 56 years old, with three fungoid lesions partially ulcerated, irregular shaped in corpus ventriculi, which histologically resulted to be a non epithelial and non lymphoid tumor of the stomach. It was performed also a laparoscopy with frozen biopsy for a lymphnode in the abdomen. The patient had also spleen metastatic lesion. A wide range of antibodies in immunohistochemistry were used in the differential diagnosis. A detailed clinical and radiologic investigations revealed no primary lesion elsewhere.

Case Presentation

A 56 year-old white male presented to the primary care physician with non specific symptoms like fatigue, weight loss and epigastric pain. It was recommended to do an Esophagogastroduodenoscopy (EGD) and a CT scan of the abdomen. The report of EGD resulted with three fungoid lesions, irregular shaped partially ulcerated on corpus venticuli. Two of them were located on major curvature measuring the bigger 4-5 cm and the other 1 cm. The third lesion was located on the posterior wall measuring 2 cm. (Photo 1,2).

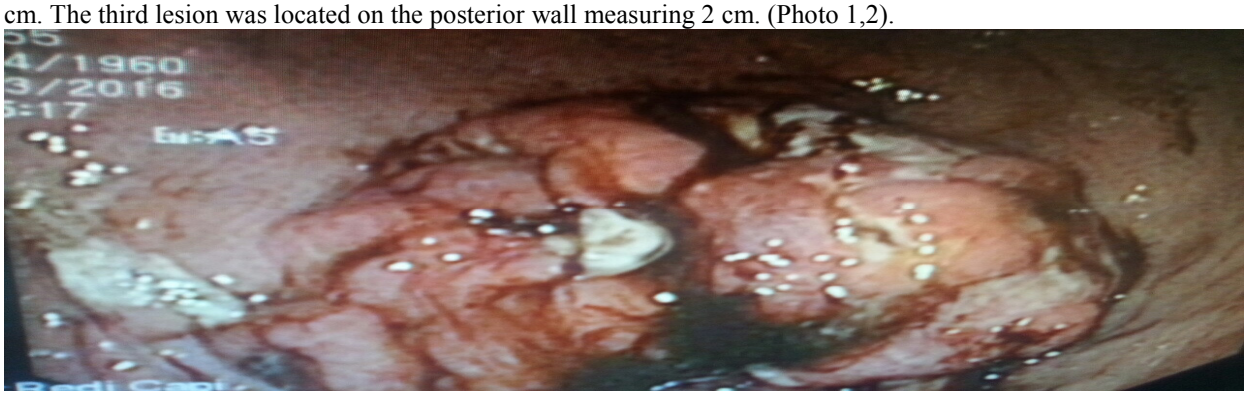

Photo 1.

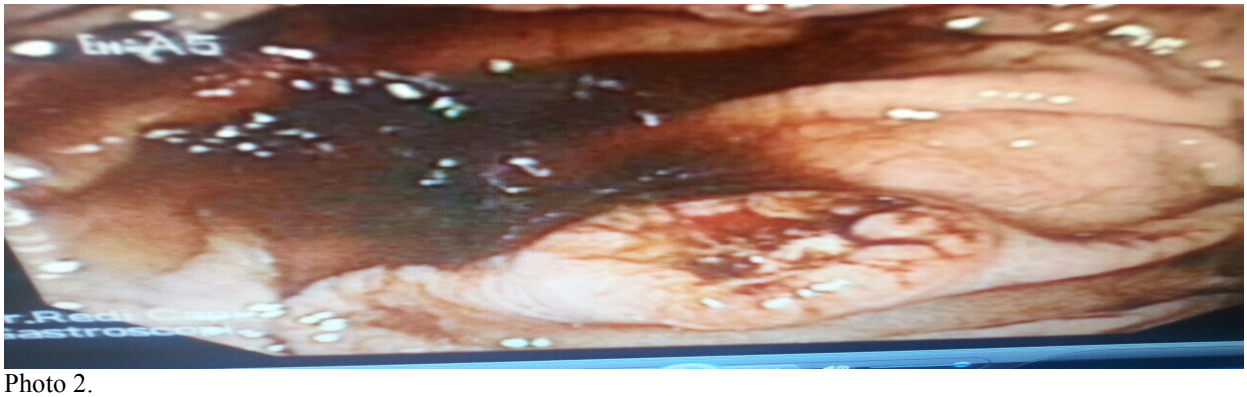

Photo 2.

It was taken tissue for histologic examination. Histopathology showed groups of epitheloid cell in nests with monomophic cells with eosinophilic cytoplasm and round nuclei (Photo 3,4).

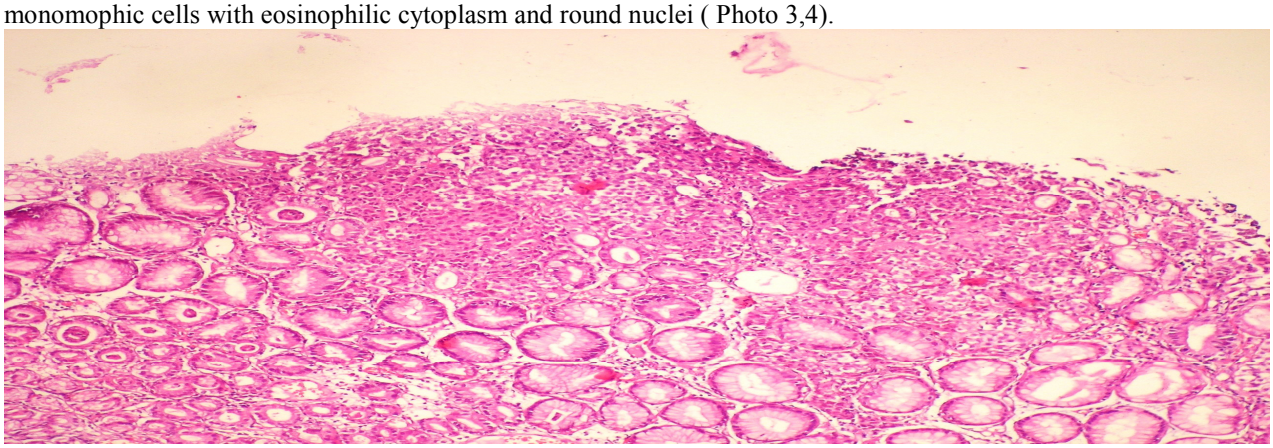

Photo 3. (HEx10)

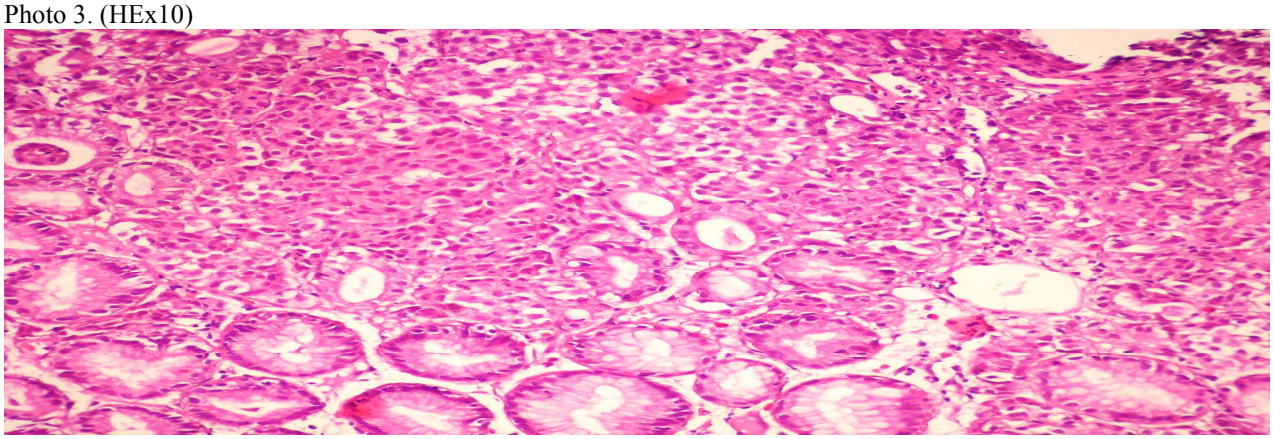

Photo 4. (HE x20)

CKAE1/AE3(-) and CD45 (-), suggesting for an epitheloid non epithelial and non lymphoid.

A larger pannel of IHC stains. Other IHC stains were performed on the material and it resulted (CD56, Synaptophysine, Cromogranine, MOC 31, Ck7, CD117) negative, CD34(+--), ki67 35-40%, suggesting for malign GIST.

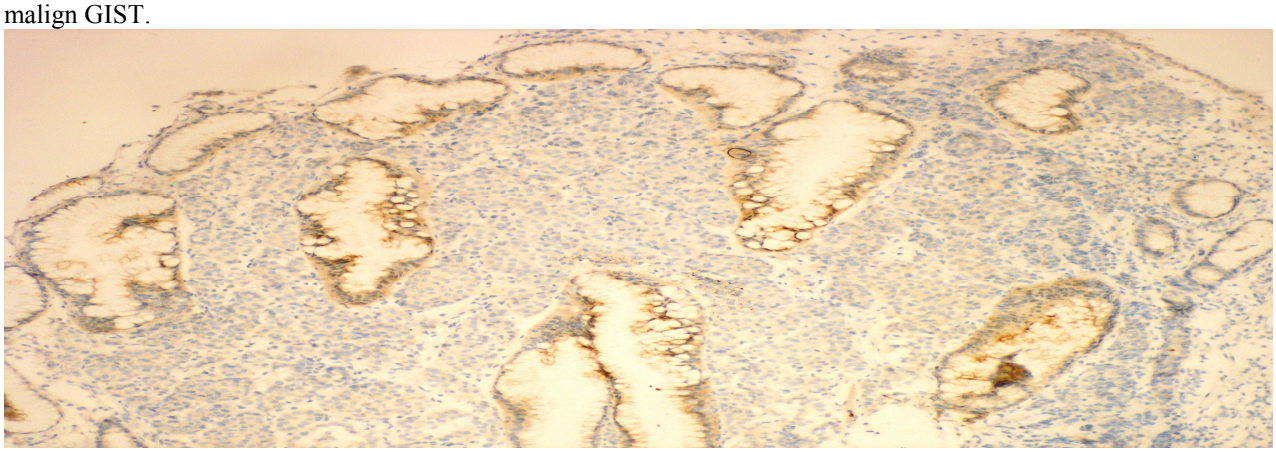

Photo 5. (CK7 x10).

Thoraco-abdominal CT –scan resulted with thick walls of stomach in the distal part of major curvature. Enlarged lymphonodes in pulmonary hiluses, near the gastro-colic ligament, near the gastro-hepatic ligament, also paraaortal lymphonodes. In the liver a 1 cm lesion suggesting for hepatic metastasis. The patient had also spleen metastasis.

It was performed a laparoscopy with frozen biopsy for a lymphonode in the abdomen.

H-E stain showed a neoplastic proliferation of malignant epitheloid cells grouped in nests, with eosinophilic cytoplasm and round nucleuses with nucleolus and nuclear inclusions (Photo 6).

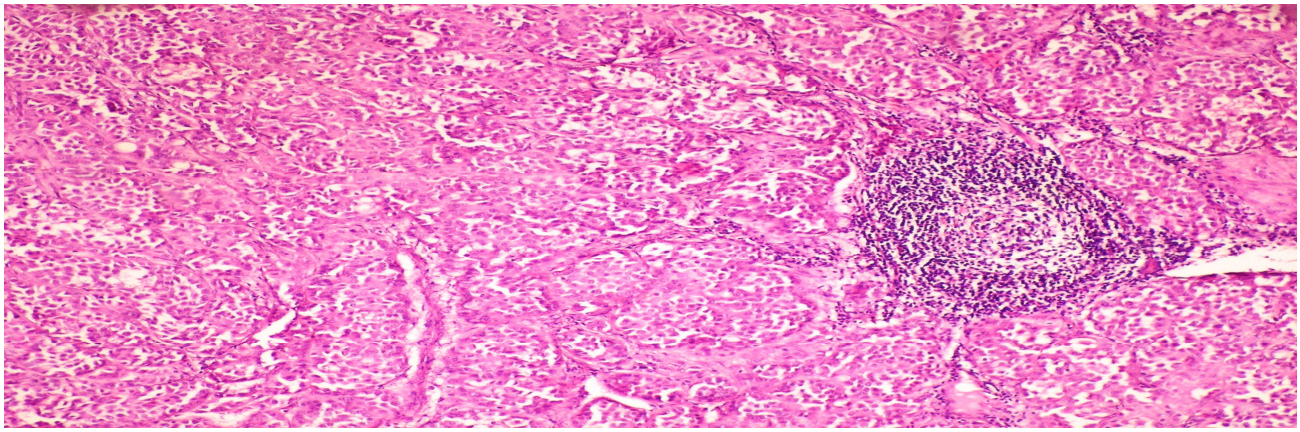

Photo 6. (HEx20)

IHC stains showed CKAE1/AE3(-), CD45(-), ALK(-), Ki67(25%), CD3(-), CD20(-), S100(+), HMB45(+), MelanA(+), resulting in **metastatic malignant amelanocytic melanoma from gastric melanoma.** (Photo 7,8,9,10)

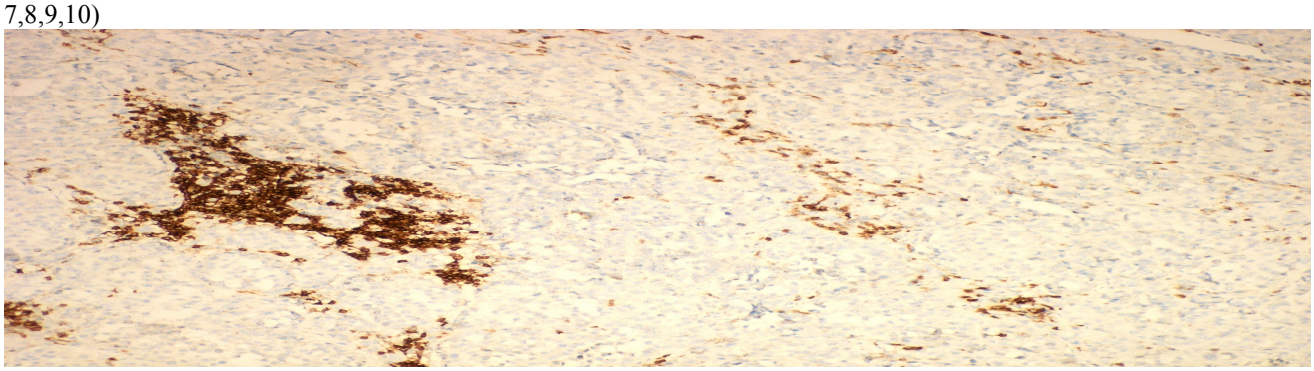

Photo 7. (CD45)

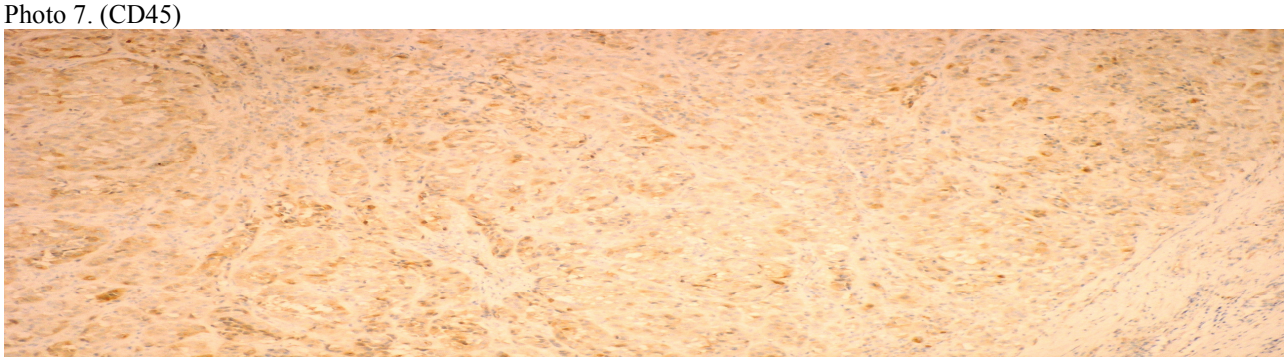

Photo 8. (MelanA)

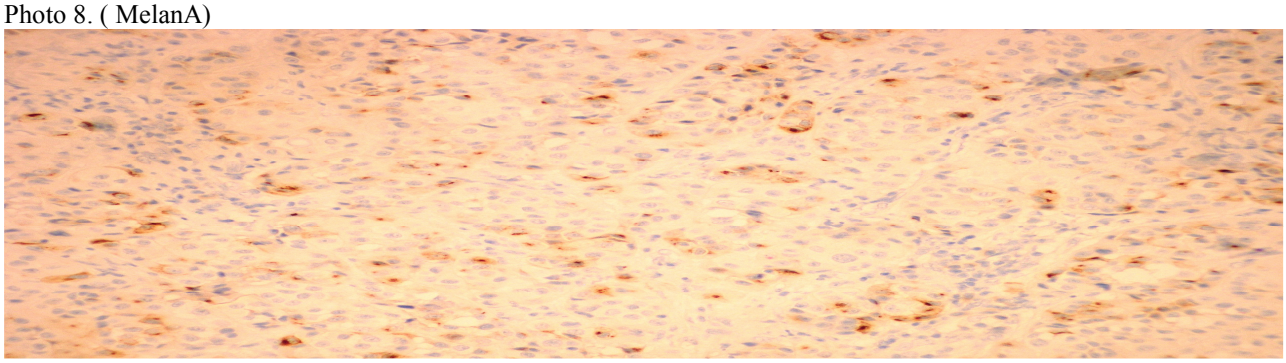

Photo 9.(HMB45)

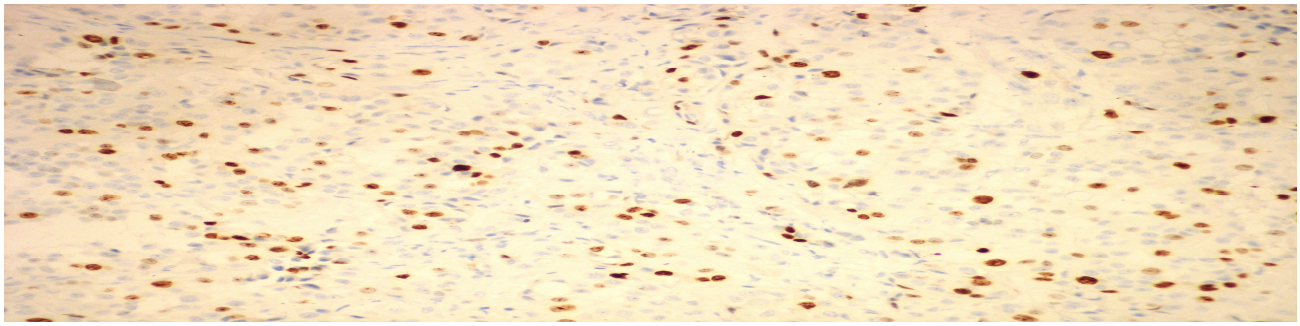

Photo 10.(ki67)

A complete examination of his skin and including oral and anal mucosa, showed no suspicious lesions and fundoscopic examination of the eye was normal. Detailed radiologic examinations revealed no primary lesions elsewhere.

A diagnosis of advanced primary gastric melanoma was made.

Discussion

Melanoma is an aggressive cancer that commonly presents in tissues where melanocytes reside, including the skin, eyes, meninges, and anal region. Gastrointestinal melanoma is most often the result of metastatic disease, with up to 60% of patients with metaplastic melanoma having gastrointestinal (GI) involvement upon autopsy(4,5). However, sporadic reports of primary gastric melanoma exists, totaling 11 cases in the literature(2). Additionally, cases involving the esophagus, small intestine, gall bladder, common bile duct, and transverse colon have also been reported. Esophageal melanoma appears to be the most common with 15 cases reported in 2014(6-11). The development and pathogenesis of primary melanoma within the GI tract is unknown and two mechanisms have been proposed. First, neural chrest derivates such as APUD cells may gain or retain the ability to de-differentiate into melanocytes and subsequently undergo malignant transformation(12). Second, ectopic migration of melanocytes into the GI tract was previously identified, suggested by the observation of benign melanosis involving the esophagus in cases of esophageal carcinoma, anal melanoma, and esophagitis, respectively(13-15). An extension of that observation makes primary gastric melanoma a reasonable possibility.

Criteria for the diagnosis of primary gastric melanoma include the absence of concurrent lesions and the lack of a history of melanoma or atypical melanocytic lesion removal from the skin or other organs(18). Disease-free survival of at least 12 months after curative surgical excision of the involved organ has been proposed as a criterion for the distinction of a primary lesion from a metastatic lesion.

50% of patients with stage IV melanoma of the skin or visceral disesase from an unknown primary lesion die 12 months after diagnosis(19).

The clinical manifestations of primary gastric melanoma are similar to those of other gastric tumors, with weight loss, upper gastrointestinal bleeding, and anemia as the most common symptoms. Most patients are asymptomatic until the tumor becomes advanced. Computed tomography scan of the abdomen, upper endoscopy, and a mass-like lesion with black pigmentation may be seen. Imunohistochemical stains S100 protein, Melan-A, and HMB-45 antibodies have increased the diagnostic sensitivity of biopsy and cytology and play a key role in the diagnosis of these lesions.

Prognosis is extremely poor due to the frequent delay in diagnosis, the inherently more aggressive nature of the tumor, and earlier dissemination due to the rich lymphatic and vascular supply of the gastrointestinal mucosa.

Conclusions

Primary gastric melanoma is an uncommon malignancy that manifests with symptoms such as abdominal pain, nausea, hematemesis ans melena, as well as nonspecific symptoms of fatigue, anemia and weight loss. Accurate diagnosis depends on biopsy and IHC staining for melanoma markers.

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