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CASE REPORT | PATHOLOGY

A Rare Case of Metastatic Merkel Cell Carcinoma to the Stomach and Pancreas Presenting With Upper Gastrointestinal Bleeding and Obstructive Jaundice

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ABSTRACT

Merkel cell carcinoma (MCC) is a rare and aggressive primary neuroendocrine tumor of the skin. Gastrointestinal (GI) metastasis in MCC is uncommon. We present a case of MCC with metastasis to the stomach, duodenum, and pancreas presenting with melena and obstructive jaundice. A large, bleeding metastatic mass was identified in the duodenum. Hemostasis was achieved with coil embolization. Endoscopic retrograde cholangiopancreatography with stenting of the common bile duct was performed to relieve the obstruction. Close surveillance with positron emission tomography/computed tomography scan and possible GI endoscopy should be performed in cases with distant metastasis to identify and treat early GI tract lesions.

INTRODUCTION

Merkel cell carcinoma (MCC) is a rare and aggressive skin cancer that was first described as trabecular carcinoma by Toker in 1972.[1] Incidence in the United States is estimated to be 2,835 cases/yr in 2020.[2] Caucasian men in the age group between 60 and 85 years are at increased risk for MCC.[3] Predisposing factors include ultraviolet radiation exposure, immunosuppression, human immunodeficiency virus, solid organ transplantation, and the presence of other malignancies.[4] Growing evidence supports the association with Merkel cell polyomavirus.[5] Sun-exposed areas such as the face and upper limbs are usually involved. It presents as a painless, firm, rapidly growing intracutaneous nodule.[6] Lymph node metastasis occurs in 27% of cases, whereas distant metastasis occurs in 8.4% of cases; most commonly affected sites include distant skin, liver, lungs, bone, and brain.[4,6] Metastasis to the stomach, small bowel, and pancreas are very rare. We present a case of MCC with metastases to the stomach, duodenum, and pancreas.[7,8] To the best of our knowledge, this is the first case of MCC presenting with upper gastrointestinal (GI) bleeding and obstructive jaundice.

CASE REPORT

A 67-year-old man with a history of MCC who presented with melena was first diagnosed with Stage IIA (T2, N0, M0) MCC of the right eyebrow 18 months before presentation. He was treated with surgical excision, followed by consolidative radiotherapy (RT). One year after the initial diagnosis, he had a recurrence in the right parotid gland that was treated with surgical resection, RT, and chemotherapy (4 cycles of etoposide and carboplatin). Positron emission tomography/computed tomography (PET) scan 3 months before the presentation showed development of 2 hypermetabolic nodules adjacent to right submandibular gland and right sternocleidomastoid, but no evidence of distant metastasis. He presented with melena and Hb drop from 13 to 8.5 g/dL. Esophagogastroduodenoscopy showed multiple small ulcerated masses up to 1 cm in diameter scattered in the stomach and a large 4 cm ulcerated mass on the lesser curvature with a blood clot that was treated with hemospray (Figures 1 and 2). Colonoscopy

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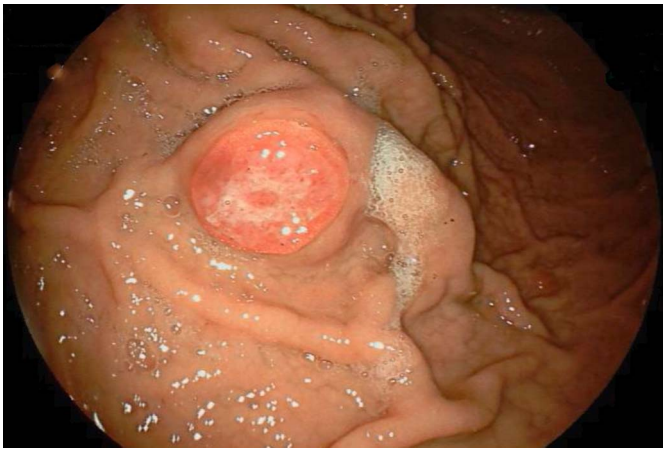

Figure 1. Small ulcerated metastatic mass in the stomach.

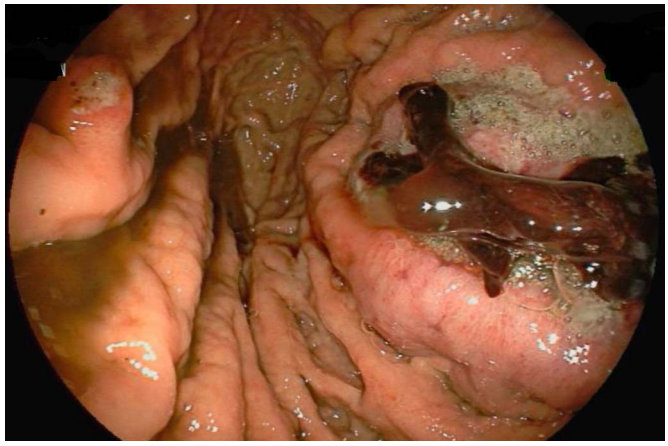

Figure 2. Large ulcerated metastatic mass along the lesser curvature of the stomach with an adherent blood clot that was treated successfully with hemospray for hemostasis.

showed internal hemorrhoids. Biopsies confirmed metastasis from MCC (Figures 3 and 4). He was discharged home; he received palliative immunotherapy (atezolizumab) and RT. Repeat outpatient PET/computed tomography scan showed significant disease progression since the last scan 3 months before, with widespread lymphatic, pancreatic, right perinephric, diffuse gastric, peritoneal, and bony metastasis. He presented 4 weeks after discharge with dark coloration of the urine.

Serum total bilirubin was 2.5 g/dL, alkaline phosphatase 458 IU/L, alanine aminotransferase 457 IU/L, aspartate aminotransferase 441 IU/L, which were markedly increased from normal liver tests 1 month before. Abdominal ultrasound showed dilated intrahepatic and extrahepatic biliary radicals and a 6.7 cm soft-tissue mass in the pancreatic head. He underwent endoscopic retrograde cholangiopancreatography that showed a narrowing of the distal intrapancreatic portion of the common bile duct. An uncovered metal stent was placed, and the patient was discharged home. Eight days later, he presented again with melena and Hb drop. Esophagogastroduodenoscopy showed a 4 cm friable, ulcerated periampullary duodenal mass that was not amenable to endoscopic intervention (Figure 5). Arteriogram showed bleeding from the duodenal mass with tumor blush in the third part of the duodenum. Coil embolization of gastroduodenal and pancreaticoduodenal arteries was performed with successful hemostasis. Biopsy of the duodenal mass confirmed metastatic MCC with tumor cells morphologically identical to recent

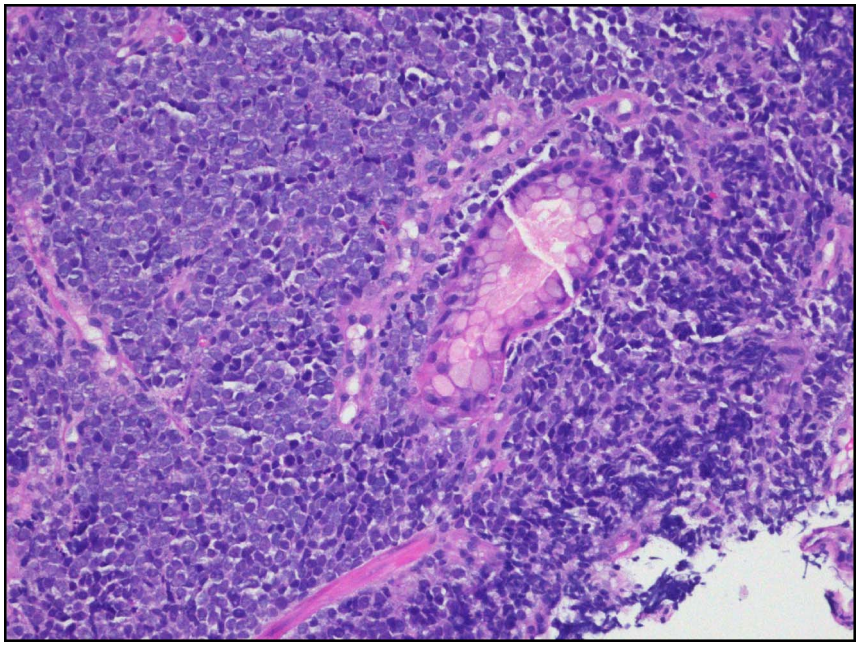

Figure 3. Hematoxylin and eosin staining of the gastric mass showing highly anaplastic small rounded blue malignant tumor cells with large round hyperchromatic nuclei infiltrating throughout the stroma surrounding normal glands. Finely dispersed salt and pepper chromatin with brisk mitotic activity and individual cell necrosis classically seen in MCCs are noted. MCC, Merkel Cell Carcinoma.

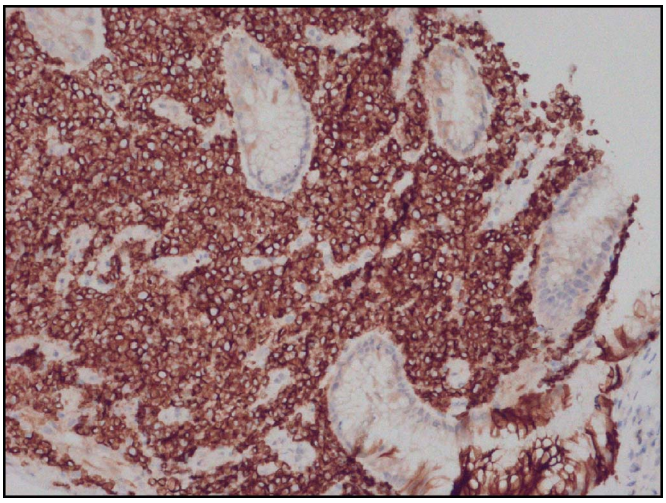

Figure 4. Cytokeratin-20 staining of gastric mass shows positive staining of the tumor cells and the stroma with the classic dot-like paranuclear pattern.

stomach biopsy. Two days after discharge, the patient was readmitted with melena and epigastric pain. Embolization of 3 tumoral branches was completed by an interventional radiologist. The patient elected for hospice care after discharge and died shortly thereafter.

DISCUSSION

To the best of our knowledge, this is the first case of MCC with distant metastasis to the stomach, duodenum, and pancreas presenting with recurrent upper GI bleeding and obstructive jaundice. Diagnosis of gastric and duodenal metastasis was established by endoscopically obtained biopsies. Endoscopic ultrasound-guided fine-needle aspiration was not performed because the patient had multiple biopsies confirming the diagnosis from other sites. Management of GI bleeding was challenging and required repeated arterial embolization.

MCC is aggressive skin cancer with high rates of recurrence.[9] Most patients (70%–80%) have localized disease on presentation, such as the one represented in our case.[10] Distant metastasis to GI tract is uncommon. Canales et al reported the first case of gastric metastasis in 1992.[11] Gastric metastasis was described in 12 cases with GI bleeding as the main presentation. The time between the initial diagnosis of MCC and gastric metastasis ranges from 4 months to 4 years.[8] In our case, it was 18 months from the initial diagnosis. Pancreatic metastasis is uncommon with very few reported cases in literature. Diagnosis is usually made by surgical excision or endoscopic ultrasound-guided fine-needle aspiration.[10,12]

Pathologically, MCC has a classic microscopic feature showing sheets and nodules of undifferentiated anaplastic round small blue cells. Confirmation of the diagnosis requires immunohistochemical staining with cytokeratin-20, which is positive in about 89%–100% of cases. Other commonly used stains include chromogranin, synaptophysin, and cluster of differentiation (CD56). MCCs are negative for thyroid transcription factor 1, a marker for small cell neuroendocrine carcinoma, cytokeratin 7, S100, CD45, and vimentin.[13] Merkle cell polyomavirus is emerging as an important diagnostic tool for MCC.[5,14] PET scan plays a vital role in staging, surveillance after excision, and prognosis.[14,15]

Wide local incision is the main treatment for the primary localized lesions.[14] Radiotherapy is indicated when surgery is not feasible, adjuvant to surgery in high-risk patients and distant metastasis.[14,16,17] Adjuvant chemotherapy role in metastatic disease is not well established and debatable.[14,18] Treatment with checkpoint inhibitors is the main treatment now for advanced metastatic MCC.[14,19] The 5-year overall survival for patients with local disease, regional involvement, and distant metastasis was 55.6%, 35.4%, and 13.5%, respectively.[20]

In conclusion, MCC is a rare and aggressive skin cancer with a high recurrence rate. GI metastasis is very rare and is associated with poor prognosis. Close surveillance with PET scan is important. GI endoscopy plays an important role in the diagnosis of GI metastasis if suspected. Checkpoint inhibitors are the main treatment now in advanced metastatic disease.

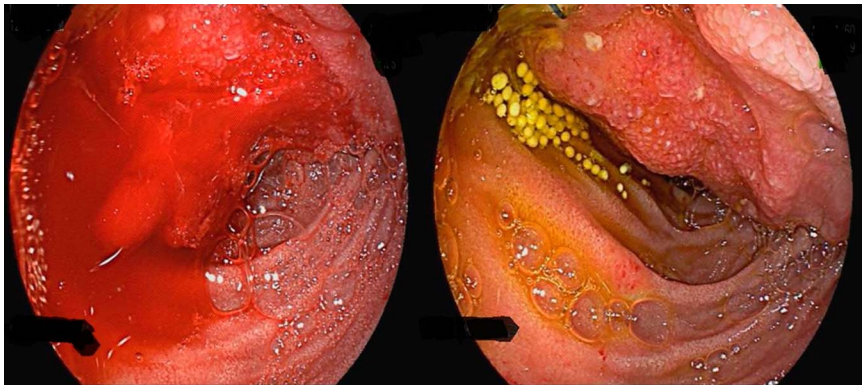

Figure 5. Friable bleeding 4 cm mass in the second part of the duodenum.

DISCLOSURES

Author contributions: A. Elkafrawy wrote and edited the manuscript, reviewed the literature, revised the manuscript for intellectual content, and is the article guarantor. L. Numan edited the manuscript, reviewed the literature, and provided the endoscopic images. A. Albawaliz wrote and edited the manuscript, and reviewed the literature. C. Liu wrote the manuscript. W. Bahaj wrote the manuscript and reviewed the literature. O. Tawfik provided the pathology images. F. Hamid edited the manuscript, provided the endoscopic images, and revised the manuscript for intellectual content.

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Informed consent could not be obtained from the family of the deceased patient despite several attempts. All identifying information has been removed from this case report to protect patient privacy.

Previous presentation: This case was presented at the American College of Gastroenterology Annual Scientific Meeting; October 25-30, 2019; San Antonio, Texas.

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