A Rare Presentation of Gastric Plastocytomas in A Patient with Multiple Myeloma

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Introduction

Multiple myeloma (MM) is a hematological neoplasm of plasma cells with plasmablastic myeloma as a rare variant of MM. The plasmablastic myeloma is characterized by a neoplastic proliferation of a single clone of plasma cells in the bone marrow, but in rare conditions can migrate extramedullary tissues where they become known as extramedullary plasmacytoma (EMP)[1,2]. Gastrointestinal (GI) involvement by EMP in MM is rare, and 0.9% of the reported cases have extramedullary disease affecting the GI system. GI manifestations includes lesions in the stomach, liver, large bowel, and rarely small bowel[3].

Case Description

- A 59-year-old male patient with a medical history of chronic hepatitis C, and Stage III multiple myeloma status post four cycles of chemotherapy presented with altered mental status.
- Labs: WBC 17,500/L, Hgb 3.8 g/dL, PLT 13,000/uL. Na 158 mEq/L, K 6.6 mEq/L, BUN 118 mg/dL, Cr 5.03 mg/dL, GFR 12 ml/min/1.73 m^2, total protein 6.3 g/dL, Ca 14.6 mg/dL, LA13.3 mmol/L, LDH 2,530 U/L, Hepatitis C viral load of 28 x10^6 IU/mL.
- Patient developed new onset hematemesis, and he was started on a pantoprazole and octreotide drips.
- Urgent esophagogastroduodenoscopy (EGD) was done, and biopsy was collected (Fig. 1 a &b)
- Biopsy result of the fundal mass was suggestive of plasma cell neoplasm (Fig. 1c).
- Plasma cell markers were positive (Fig. 1 d-f).

Clinical Images

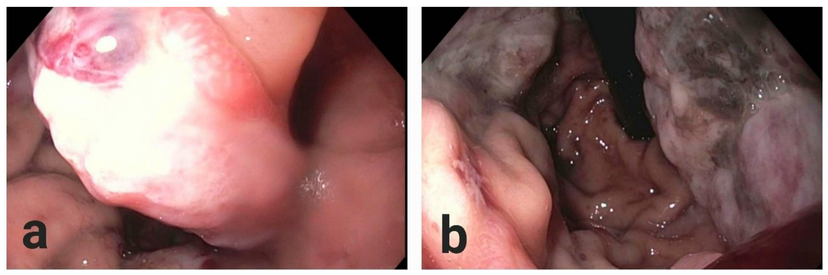

Fig.1 a &b) EGD shows polypoid EMP in the gastric fundus

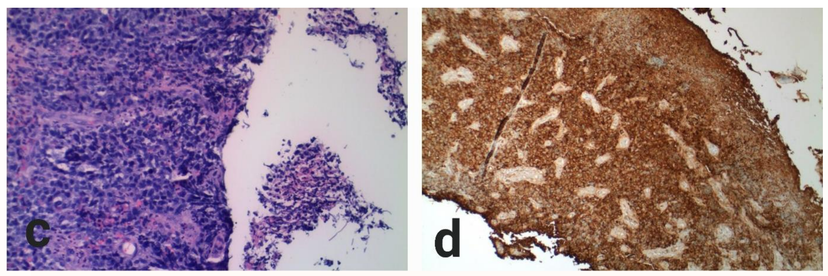

Fig.1 c) Infiltration of plasmablasts with highly atypical nuclei and prominent nucleoli (hematoxylin-eosin 20x). **d)** Granular positivity for kappa immunoglobulin light chain.

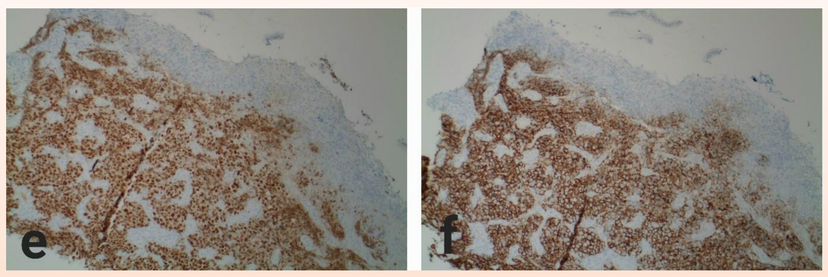

Fig 1 e) Positive immunostaining for MUM-1. **f)** Positive CD138 immunostaining highlights the plasma cells in the lamina propria of the gastric fundus EMP.

Discussion

- MM usually evolves from a benign to a highly malignant phase associated with extramedullary manifestations as EMP [4,5]
  - Due to dysregulation of a complex cell-signaling pathway involving stromal cell-derived factor 1, chemokine receptor CXCR4, lymphocyte function-associated antigen 1, very late antigen-4/5, and matrix metalloproteinases 2–9.
- The most common sites for EMP are the nasopharynx, larynx, and upper respiratory tract.
  - However, it does rarely involve the gastrointestinal tract [6].

Discussion

- The pathogenesis of GI bleeding secondary to EMP is multifactorial.
  - It is due to the damage to the physical barrier of the GI mucosa, coagulopathy secondary to bone marrow suppression, or infections in immunocompromised patients.
  - This results in direct organ invasion leading to perforation, mechanical mass effects leading to obstruction, and development of ascites [7]
- EGD is considered the main diagnostic modality used during which biopsies are retrieved to provide histopathologic confirmation.
- The presence of GI involvement and the malignant phase of MM are associated with a poor prognosis despite aggressive therapy.
- EMP in patients with MM should be considered as the differential diagnosis in patients with GI bleeding.
- It is therefore paramount to establish an accurate diagnosis early to avoid any delays in the treatment.

References

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