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Gastroblastoma, a biphasic neoplasm of stomach: A case report

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ABSTRACT

INTRODUCTION: Gastroblastoma is a rare gastric biphasic tumor with both epithelial and mesenchymal components. To the best of our knowledge only eight cases have been reported in the English literature till date.

PRESENTATION OF CASE: We report a case of a 29-year-old female, hospitalized for epigastric pain with poor general condition. An upper gastrointestinal endoscopy showed a polypoid mass in the stomach near the gastric cardia suspicious of gastrointestinal stromal tumor. The patient underwent atypical proximal gastrectomy with splenectomy. Detailed histopathological examination of the resected specimen revealed the diagnosis of gastroblastoma. After six months, the patient developed loco-regional recurrence for which surgical debulking was performed.

DISCUSSION: Gastroblastoma is predominantly seen in young adults with non-specific complaints. They appear as submucosal lesion in the stomach mimicking gastrointestinal stromal tumor. Preoperative diagnosis is often difficult. Surgical resection remains the mainstay of treatment. On histology, they consist of mesenchymal component which stain positively for vimentin and CD10 and epithelial component which is positive for cytokeratin on immunohistochemistry.

CONCLUSION: Gastroblastoma is a malignant tumor with risk of local recurrence after curative resection.

1. Introduction

Gastroblastoma is a recently described gastric tumor characterized by presence of both epithelial and mesenchymal components. This biphasic tumor was first reported to be a distinct entity by Miettinen et al. in 2009 [1]. Till date, only eight cases have been reported in English literature. Due to the rarity of this disease, the etiopathogenesis, malignant potential and appropriate treatment for this disease remains unknown.

We report a case of gastroblastoma with aggressive behavior in a young lady who developed local recurrence within six months of curative treatment. Additionally, we performed a literature review so as to provide better understanding of the clinico-pathological characteristics, therapeutic approaches and prognosis of this rare type of gastric tumor. This case has been reported in line with the SCARE criteria [2].

2. Case description

A 29-year-old lady presented with complaints of epigastric pain for eight months. The pain was dull aching in nature, paroxysmal, unrelated to food and without radiation. Patient also had a single episode of hematemesis two days prior to the admission.

Upper gastrointestinal endoscopy revealed the presence of a 7-cm polypoid submucosal lesion near the gastric cardia on the posterior wall of the stomach towards the greater curvature. The lesion was located about 30 cm from the incisors. Endoscopic biopsy was inconclusive. Laboratory tests showed hypochromic microcytic anemia (Hb – 6 g/dl, MCV – 66,7 fL, MCHC – 27 g/dl). Liver and renal function tests were normal. Serum CEA level was normal and serum CA 19-9 level was 12 U/ml.

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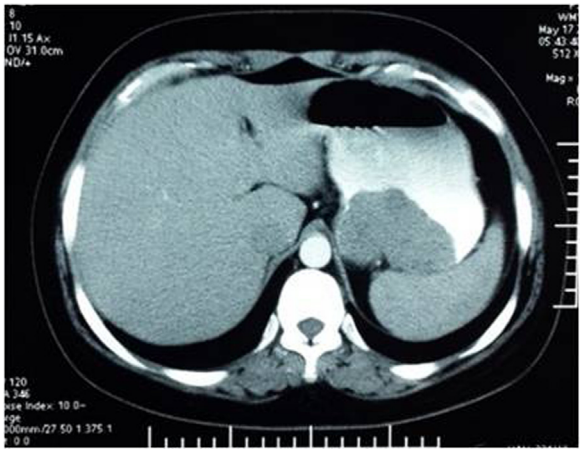

Fig. 1. Abdominal CT scan showing the presence of a cystic tumor of 7 cm with a component tissue developing at the expense of the stomach, with enhancement after contrast injection.

Abdominal CT scan showed the presence of a solid-cystic tumor of 7 cm arising from the posterior wall of the stomach close to the gastric cardia (Fig. 1).

Intra operatively, the tumor was located on the posterior gastric wall occupying the proximal stomach with encroachment of the splenic hilum. Atypical partial gastrectomy with splenectomy was performed due to the extension to the splenic hilum. Postoperative recovery was uneventful.

On macroscopic examination, the tumor was 7 × 4 ×4 cm in size. On cut section, there were focal areas of necrosis and hemorrhage. The tumor showed infiltration of all the layers of the gastric wall with invasion of the splenic hilum. Six enlarged lymph nodes were found at the splenic hilum and two enlarged lymph nodes were located at the gastric fundus.

On microscopic examination, the tumor was predominantly located in the submucosa with focal invasion of the mucosa, muscular layer, serosa and splenic hilar fat at places. The tumor consisted of two components – mesenchymal and epithelial (Fig. 2). The predominant component was mesenchymal, consisting of ovoid cells arranged in layers, with regular nuclei and scanty cytoplasm (Fig. 3). There were 21 mitoses per 10 high power fields. The epithelial component was focally distributed, consisting of lightly-reduced glands, lined by cuboidal to columnar cells with atypical hyperchromatic nuclei and infrequent mitosis (Fig. 4). Both components were of blastematic immature type. Peri-tumoral vascular emboli were present. Two of the six nodes of the splenic hilum were metastatic while both of the lymph nodes at the fundus were free of tumor.

On immunohistochemistry, the tumor was uniformly positive for vimentin, CD 99 (Mic 2) and focally positive for CD 10 (Fig. 5). Staining with anti-cytokeratin antibodies, anti-chromogranin, anti-synaptophysin and anti-C-kit was negative. Based on the above

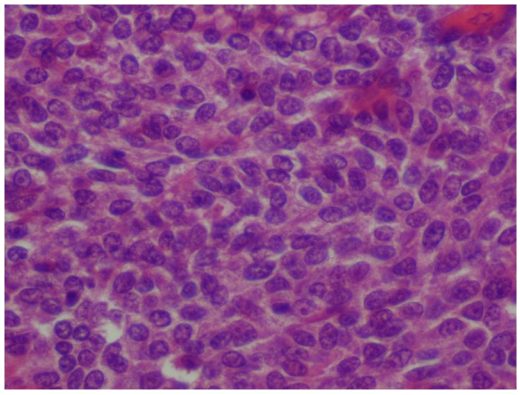

Fig. 2. Tumor consisted of mesenchymal component made of oval cells arranged in cords, tubules and epithelial component arranged in glands (hematoxylin eosin X 200).

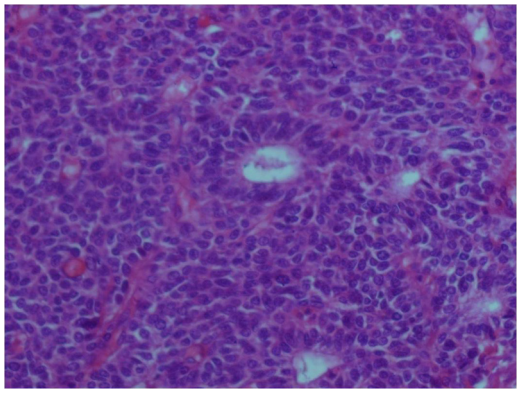

Fig. 3. Mesenchymal component consisted of oval cells with scant cytoplasm and monomorphic nuclei (HE X 400).

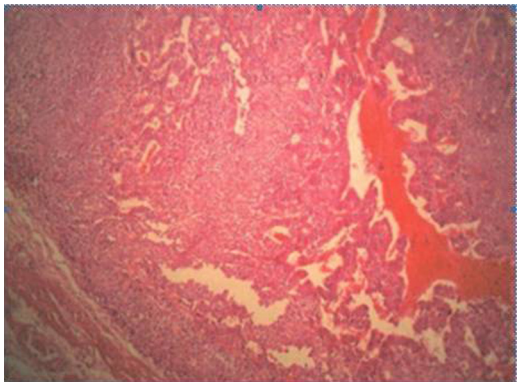

Fig. 4. Epithelial component showed glands lined by cubo-cylindrical cells (HE X 400).

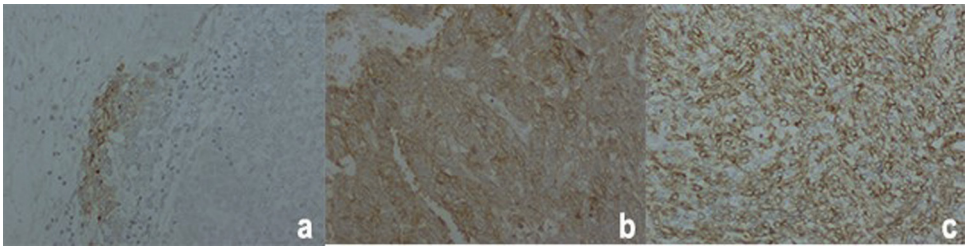

Fig. 5. Immunohistochemistry: positivity of neoplastic cells with vimentin (A), CD99 (B) and focal positivity with CD10 (C) (X 200).