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Gastric Glomus Tumour: A Rare Cause of Gastrointestinal Bleeding

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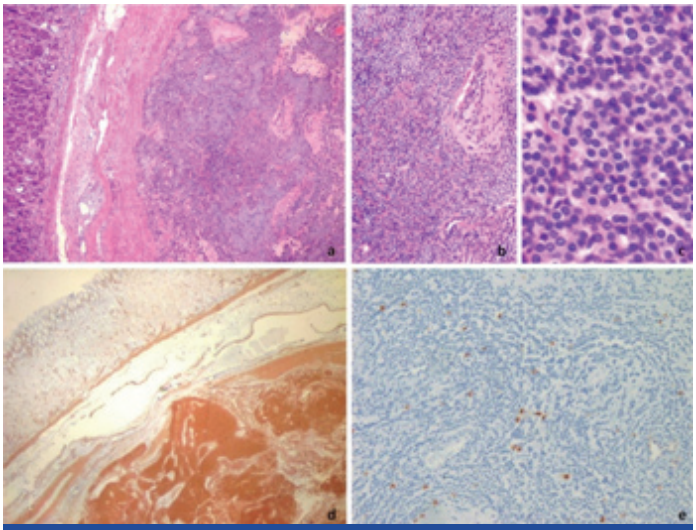
A 62-year-old man was referred to the Gastroenterology Department with complaints of haematemesis and maleana since past four days. His general physical examination showed no organomegaly. Cancer antigen (CA) 19.9 levels were normal. An esophago-gastro duodenoscopy revealed a 4x3 cm polypoid endophytic soft tissue mass lesion at the body and greater curvature on the posterior surface of stomach with an overlying normal mucosa. Computed tomography (CT) abdomen showed well-circumscribed submucosal masses in stomach with homogeneous density and no attached peritoneal soft tissue infiltration; findings were suspicious of gastrointestinal stromal tumour (GIST). Laproscopically wedge resection was performed with no complications. A wedge gastrectomy specimen was received measuring 2.5x2.0x1.5 cm with a stapled margin. On cut section a mass was noted in the wall measuring 2.0x1.0x1.0 cm which was homogenous on cut section. Mucosa was unremarkable. Histopathology showed multiple well circumscribed solid nests of tumour cells with dilated blood vessels in the submucosa separated by bundles of smooth muscle and fibrous tissue with hyalinization. Cells were small monomorphic, round cells with sharply demarcated margins, vescicular chromatin and scanty cytoplasm [Table/Fig-1a-c]. Mitosis was inconspicuous. There was no vascular invasion. Immunohistochemistry (IHC) revealed diffuse positivity for smooth muscle actin (SMA) (Dako, IA4) [Table/Fig-1d] and vimentin (Dako, V9) immunostains. Ki 67 (Dako; MIB-1) index was <1%. Cytokeratin (CK) (Biogenix; AE1 and AE3), CD 34 (Dako, QBE nd 10), CD117 (Biogenix, YR117) [Table/Fig-1e], S-100 (Dako, 5Y38), Synaptophysin (Dako;SY38), Chromogranin (Dako;IS 502), Desmin (Dako;D33) and DOG-1 (Thermo-Scientific;SP 31) were negative. Focal ulceration with necrosis was noted. Resection margin of stomach as well as circumferential margin was free. Diagnosis of Glomus tumour of stomach was given. One month follow-up period was uneventful.



[Table/Fig-1a-e]: Well circumscribed lesion in submucosa (a, haematoxylin and eosin,100X) composed of monomorphic small round cells along with dilated vessels surrounded by glomus cells (b, haematoxylin and eosin,200X) with stippled chromatin and scanty cytoplasm (c, haematoxylin and eosin, 400X) which showed diffuse positivity for smooth muscle actin immunostain (d) and negativity for CD117(e)

Glomus tumours are rare mesenchymal tumours arising from the neuromyoarterial canal (the canal of Sucquet-Hoyer) or glomus body. It commonly occurs in the peripheral soft tissue and extremities, but can grow anywhere in the body. As gastric glomus tumour lacks specific clinical and endoscopic characteristics, it is difficult to distinguish from more common gastrointestinal stromal tumour (GIST), paraganglioma or carcinoid tumours [1]. The epithelioid pattern of GIST is confused with glomus tumour. However, GIST usually lacks dilated capillaries and tumour cells are positive for CD117, DOG-1 and CD34. Paraganglioma cells are arranged in a characteristic Zellballen pattern with rich thin-walled blood vessels in stroma which can mimic glomus tumour. On IHC the tumour cells are positive for synaptophysin, chromogranin A and neuron specific enolase. These nests are surrounded by sustanticular cells which are positive for S-100 protein. Carcinoid tumour is a neuroendocrine carcinoma and comprised of oval or spindle tumour cells arranged in cords or nests with thin-walled blood vessels. Carcinoid tumour cells are positive for CK, S-100 protein, synaptophysin, chromogranin A, and neuron specific enolase, but negative for SMA. Glomus tumour of stomach is rare and the diagnosis is mostly dependent on the histopathologic (presence of uniform small round glomus cells) and IHC findings (Vimentin, SMA positivity and S-100 protein, CD34, CD117, DOG-1, desmin, CD56, synaptophysin, chromogranin A, neuron specific enolase and cytokeratin negativity) [2,3].

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