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Uncommon Display of Glomus Tumor in Stomach- Case Report

Authors
Dr M.Srividya[1], Dr Milap Shan[2], Dr C.N. Srikanth[3], Dr Sai Sindhu Kotla[4], Dr Sarika[5], Dr Naveen Chand[6]
[1,4,5,6]Consultant Pathologist
[2]Senior Consultant Pathologist
[3]Surgical Oncologist
Yashoda Hospitals (Secunderabad Branch, Telangana)

Abstract
This is a study report of submucosal mass in stomach in a 58yr old female patient who presented with epigastric pain.
Endoscopic ultrasound shows shows a protrusion of mass in submucosa along the lesser curvature of stomach. Biopsy was performed along with Immunohistochemistry in which the cells were positive for smooth muscle actin and negative for cd117, dog-1 ,desmin and s100. Proliferation index was less than 2 percent. Here we are presenting unusual tumor other than conventional tumors.

Introduction

Glomus tumor is a mesenchymal tumor arising from neuromyoarterial canal or glomus body. This tumor is commonly seen in peripheral soft tissues, extremities (fingers). It is rarely seen in gastrointestinal tract. Mostly in GIT it is seen in stomach that to at a antrum. Usually patient do not have any specific symptoms and incidentally detected in endoscopy. It's a rare entity in gastrointestinal tract and accounts for 1% of all gastric mesenchymal tumors.

These tumors originate from the modified smooth muscle cells of glomus body, which is an neuroatrial receptor that helps in regulating blood flow in arteries. These tumors are generally benign but some rare cases reported to behave malignant with metastasis and resulting in death.(1,2)

Since these tumors are not common presurgical confirmation is not possible unless biopsies are performed. Clinically it mimics as gastrointestinal stromal tumor , leiomyoma, neuroendocrine tumors or carcinomas.

Case Report

53 yr old female patient presented to gastroenterology department with epigastric pain, discomfort and indigestion.

Upon investigation her hemoglobin and albumin were low.

Non diabetic and no other comorbidities. So patient was taken for endoscopic ultrasound examination. Upon screening a submucosal heteroechoic vascular lesion noted in the antrum. Subsequently a biopsy was performed.

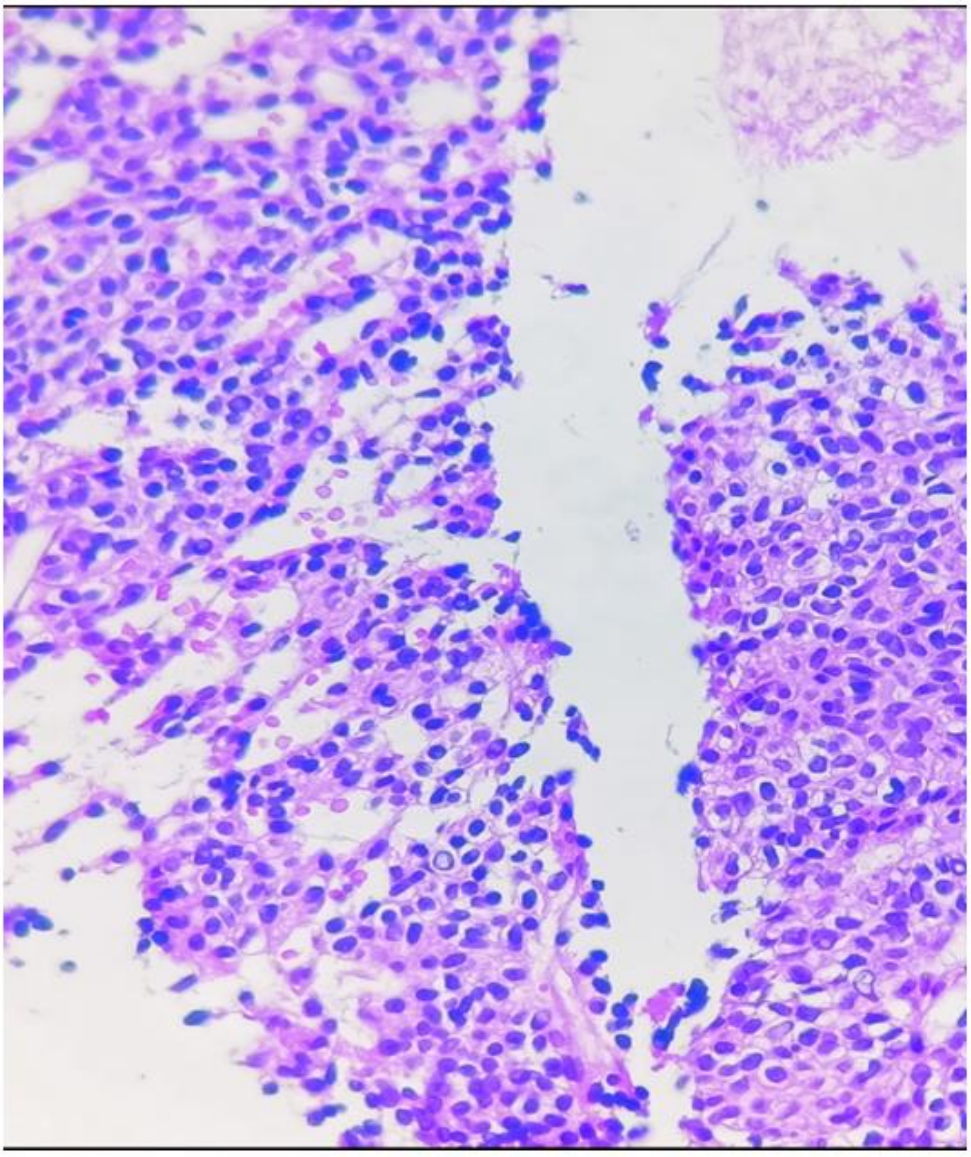
On histopathology 2-3 linear hemorrhagic cores were received measuring 0.6-0.7 cm and all the tissue was processed.

On histopathological examination shows proliferation of nodules of monomorphic cells with well defined borders separated by streaks of gastric smooth muscle fibers. Individual cells showed round to oval nuclei with eosinophilic cytoplasm. Intervening few dilated pericytoma like vessels noted. The nuclei do not showed any atypia and mitosis.

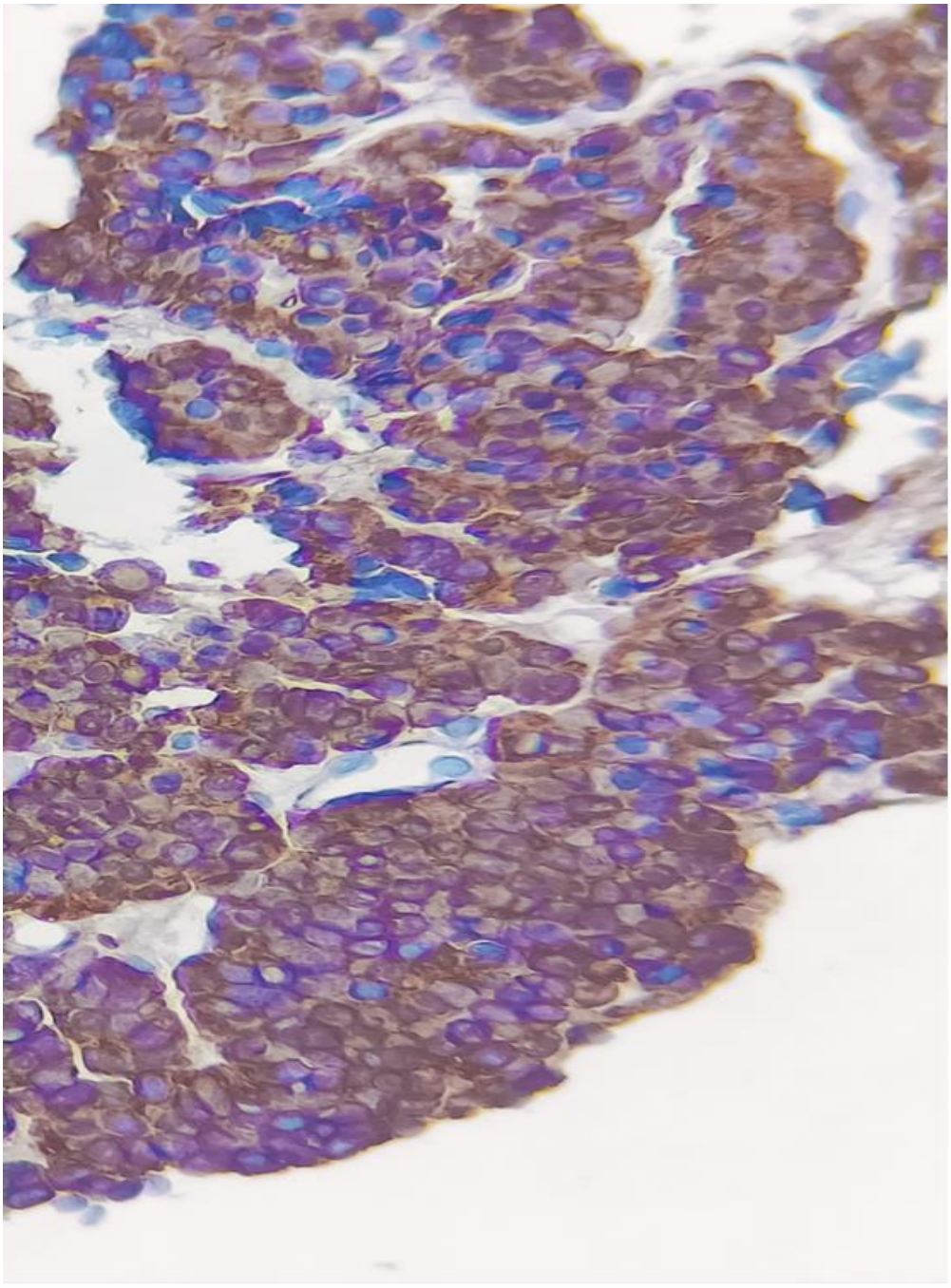
Further Immunohistochemistry was performed which demonstrates positivity with SMA (smooth muscle actin), vimentin and negative for CK, CD117,DOG-1, S100, synaptophysin oand INSM-1. In view of morphology and histopathology profile mesenchymal tumor, Glomus tumor was confirmed.

The patient later underwent wedge resection of lesser curvature of stomach. The tumor on resection measures 6x5.5cm. On cut section, solid Grey white firm to hemorrhagic areas.

On histomorphology the tumor has similar morphology as in small biopsy, such as vasculature surrounded by small monomorphic cells . Cellular atypia, pleomorphism and necrosis not seen and mitosis 2-3/10hpf.



Histomorphology of glomus tumor



Immunohistochemistry marker- SMA (positive)

Discussion

Glomus tumor in gastrointestinal tract is not so common mesenchymal tumor in GIT with most common location is antrum.[3] On review of literature done by Duan and Chetty(4) in gastric glomus tumors show more female preponderance With an average age of presentation is 54yrs.

The most common resentation by patient is epigastric pain and discomfort along with upper gastrointestinal bleeding due to its vasculature nature and is a threat to patients life.

The closest differential diagnosis for glomus tumor is gastrointestinal stromal tumor and to differentiate these two clinically and radiologically is a challenging aspect, because both are well defined, circumscribed and submucosal location [5,6]. However endoscopic ultrasound may give a clue about layer of gastric wall from which tumor is arising.

But, Tsagkataki et al. Stated that there's no significant endoscopic findings that point towards glomus tumor. Hence histopathology examination

is gold standard diagnostic tool for diagnosis of glomus tumor.

On gross the tumors are well circumscribed, submucosal location and solid Grey white to hemorrhagic on cut section.

Microscopy shows nest and sheets of monomorphic cells with well defined border and eosinophilic cytoplasm. Branching capillaries are rimmed by collars of uniform glomus cells. Stroma shows myxoid change. Significant atypia or brisk mitosis are not seen. In contrast GIST shows spindle cells in fascicles.

Morphological the tumor mimics as neuroendocrine tumor, so it is important to rule out by Immunohistochemistry.

In our case SMA and Valentin were diffusely positive, CD117, DOG-1 (GIST markers) were negative and Synaptophysin and INSM-1 (neuroendocrine markers) were negative, thus concluding as Glomus tumor.

There are few atypical features which can transform the tumor to malignant such as deep location, size more than 2cm, and mitosis >5/50hpf.[7]

On Immunohistochemistry SMA, Valentin are diffusely positive in glomus where as GIST is positive for CD117 and DOG-1 .

The prognosis of these tumors are generally favorable, with very low incidence of recurrence and malignant transformation and metastasis[8,9]. In a very rare cases metastasis was observed in liver ,lungs, bones and brain .

Standard treatment includes wide local excision of tumor with free margins and lymph node dissection is usually not required.

This case highlights the importance of unusual location of tumor with appropriate histopathological diagnosis, surgical intervention plays the crucial role in management of patient and prediction of prognosis.

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