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Case Report

Gastric Schwannoma: An Important Differential Diagnosis Gastric Submucosal Lesion

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Keywords

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Abstract

We are reporting a rare case of gastric tumor which on resection turns out to be Schwannoma. Digestive tract Schwannomas are rare mesenchymal tumors' occurring most frequently in the stomach. Owing to their typical presentation as sub mucosal neoplasm's with spindle cell histology, gastric schwannomas and GISTs appear grossly similar moreover there is no difference in clinical presentation but prognosis wise they are quite different. Schwannoma have excellent prognosis in comparison to GIST. So it is important to keep Schwannomas in differential diagnosis in patient with sub mucosal, exophytic mass.

INTRODUCTION

Gastrointestinal mesenchymal tumours are a group of tumours originate from the mesenchymal stem cells of gastrointestinal tract, consisting of gastrointestinal stromal tumours (GIST), leiomyomas or leiomyosarcomas, and schwannomas [1]. Among these neoplasms, GISTs are the most common. Schwannomas, also known as neurinomas, are tumours originating from any nerve that has a Schwann cell sheath [2]. They are rarely observed in the gastrointestinal tract (GIT) with the most common site being the stomach. These tumours are usually benign, slow-growing and asymptomatic which represents only 0.2% of all gastric tumours. Owing to their typical presentation as submucosal neoplasms with spindle cell histology, gastric schwannomas and GISTs appear grossly similar. They also appear to have no distinct clinical features. However, the prognosis for gastric schwannomas and GISTs is very different. It was found that virtually all cases of GIST would exhibit malignant behaviour if followed [3], whereas gastric schwannomas are benign tumour with an excellent prognosis [4]. Hence, it is important to make an accurate diagnosis to optimally guide treatment options.

CASE REPORT

A 45 years old lady, was admitted in our hospital for complaints of pain in upper abdomen on and off from last six months. The patient was apparently asymptomatic six months back when she started experiencing epigastric pain and nausea. Her vitals were normal. On examination, abdomen was soft with mild tenderness in the epigastrium but no mass felt. Routine blood test was normal. Contrast enhanced CT of abdomen showed a 4.8 x 4 cm sized omogeneously enhancing nodular growth along the lesser curvature of stomach (Figure 1). There was no evidence of metastasis or enlargement of the lymph nodes.

Oesophagogastroduodenoscopy (OGD) reveals smooth antral growth of about 5 cm diameters with normal overlying mucosa. Endoscopic biopsy shows inflammatory cells with marked fibroblastic proliferation with no evidence of malignancy.

Following discussion with the patient and her family, surgical resection was chosen under suspicion of a gastrointestinal

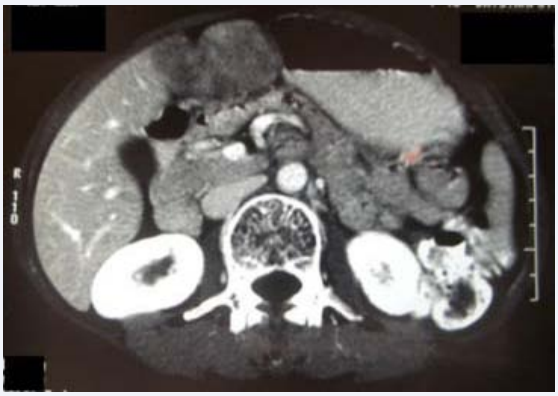

Figure 1 CT Scan picture.

stromal tumor. On exploration we clearly identified a large exophytic mass with smooth surface measuring 5 x 4 cm along the lesser curve in the gastric antrum close to the pylorus. We performed distal gastrectomy (Figure 2). Her post-operative recovery was uneventful and she was entirely asymptomatic when reviewed in clinic 6 months later.

Histopathological examination of respected specimen showed an exophytic tumour measuring 5.3 x 3.5 cm. It is seen involving serosa grossly. Cut section shows grey white with focal area of haemorrhage. Microscopy shows verocay bodies, hyalinised blood vessels and sprinkling of lymphocytesb (Figure 3). The tumour principally involves the muscularis propria and subserosa and is covered by intact mucosa. No nuclear atypia, mitosis or areas of necrosis seen. Immuno histochemically the tumour was S-100 protein and Vimentin positive but CD 117 negative. Features suggested of schwannoma.

DISCUSSION

Gastric mesenchymal tumours can be divided into gastrointestinal stromal tumours (GIST), leiomyoma or leiomyosarcoma, and schwannoma [1]. Their cellular structures are of spindle shape and look similar under light microscopic examinations. By the aid of immunehistochemical staining, Sarlom o-Rikala and Christoper reported the differences between these spindle cell tumours [5].

Schwannomas also known as neurinomas or neurilemmomas are generally benign, slow growing neoplasm's originating in any nerve that has a Schwann cell sheath [2]. Schwannomas are equally distributed between genders, and the greatest age incidence reported was between the 3rd and 5th decades in keeping with the age of our patient [5,6]. Schwannomas are rare among the spindle cell mesenchymal tumours of the gastrointestinal tract which represents only 0.2% of all gastric tumours and 4% of all benign gastric neoplasm's [6]. We report a case of gastric schwannoma located in the antrum.

Figure 2 Introperative picture.

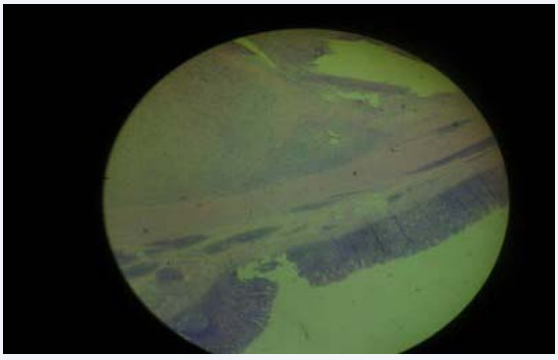

Figure 3 Histology.

Gastric schwannoma arise from the nerve sheath of Auerbach plexus or, less commonly, Meissner plexus [7]. They are slow growing encapsulated tumours composed of Schwann cells in a collage nous matrix. As the tumour enlarges, it displaces the nerve to the periphery of the tumour, preserving neural function. They are often asymptomatic and can be discovered incidentally at laparotomy or radio graphically. The most common presenting symptom is an episode of upper gastrointestinal bleeding. In the Burnet on review series, most patients presented with bleeding, followed by abdominal pain [8].

Schwannoma appears to be well defined sub mucosal mass like lesion with diffuse enhancement on CT scan. In 2005, Levy et al., suggested that the homogenous enhancement pattern may aid in differentiation of gastric schwannomas from GISTs, which frequently show heterogeneous enhancement due to degenerative changes [9]. Later, in 2008, Hong et al., reported similar findings after studying 16 cases of gastric schwannomas at their institution: 13 cases showed a homogeneous enhancement pattern (81%), and cystic changes were seen in 2 cases (13%) [10]. Our case, which was immune histochemically diagnosed as a gastric schwannoma postoperatively, had homogenous enhancement pattern on CT scan. Surgical resection, including wedge resection, subtotal resection or near total resection, is the treatment of choice for gastric schwannoma.

CONCLUSION

In conclusion, this case underscores the importance of including gastric schwannomas in the differential diagnosis when preoperative imaging studies reveal a sub mucosal, exophytic gastric mass. Resection of the mass is the treatment of choice. The size and location of the tumour, as well as its relation to the surrounding organs are important factors in determining the type of operation.

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