International Journal of Healthcare Sciences ISSN 2348-5728 (Online)
Vol. 2, Issue 2, pp: (130-133), Month: October 2014 - March 2015, Available at: www.researchpublish.com

Neuroendocrine Tumor Attach To Lesser Curvature of Stomach – A Case Report

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Abstract: **Carcinoid tumors arise from the diffuse components of the endocrine system. The majority are found in the GI tract, and more than 40% occur in the small intestine. The tracheobronchial tree and lungs are the next most commonly sites involved. Gastric carcinoids may be associated with endocrine cell hyperplasia, chronic atrophic gastritis, and Zollinger-Ellison syndrome. The term carcinoid, or "carcinoma-like," was applied because these tumors tend to have a more indolent clinical course than GI carcinomas. Carcinoid tumors are best considered to be well-differentiated neuroendocrine carcinomas. Neuroendocrine tumors of stomach are rare. We report a case of neuroendocrine carcinoma attach to lesser curvature of stomach as freely mobile mass in a 20 year old male patient presenting with complain of gastric pain, loss of appetite, indigestion and abdominal discomfort. Diagnosis of neuroendocrine tumor is made on histopathological examination which is confirmed by immunohistochemistry**.

Keywords: **Neuroendocrine carcinoma, Stomach.**

1. INTRODUCTION

Gastric carcinoid is rare, accounting for 0.4%-1.8% in tumors of the gastrointestinal tract.[1] Pancreatic heterotopia in stomach is often incidentally encountered during surgery or autopsy, with its incidence ranging from 0.6% to 13.7%.[2] Neuroendocrine (NE) carcinoma of the stomach is an uncommon tumor, usually associated with highly malignant biological behavior and extremely poor prognosis[3]. Neuroendocrine tumor are composed of uniform small round cells with salt and pepper chromatin. And specific immunohistochemical staining are required to conform the diagnosis.

2. CASE REPORT

A 20 year-old man with no family history of multiple endocrine neoplasia presented with complain of gastric pain, loss of appetite, indigestion and abdominal discomfort.On ultrasonography a mass reported in gastric region and endoscopy is advised Upper gastrointestinal endoscopy and computed tomography scan revealed a 5 cm sized gastric mass in the lesser curvature aspect of the body of stomach Gastroscopy was failed to taken biopsy.After this routine investigation of patient was done.

Hematological :- Hemoglobin-13.5gm%, Total WBC count – 7400/cumm, ESR-20mm at the end of one hour, bleeding time and clotting time was within normal limit. He underwent a subtotal gastrectomy under general anesthesia and was found to have two freely mobile mass attach to lesser curvature and measuring about 9x7x5 and 5x4x3 cm. Both the mass were removed.

Gross examination revealed two greyish dark brown coloured spherical mass each measuring 9x7x5cm and 5.0x4.0x3.5cm in size. The external surface is smooth and cut surface is lobulated dark brown with gray white and hemorrhage.Multiple section was taken from both spherical mass and examined under microscope. section from both nodular mass shows neoplastic cells arranged in nested and gyriform pattern separated by fibrovascular septa with areas of hemorrhage. The individual tumor cell is small uniform in size, round having scanty cytoplasm and almost uniform

size round nuclei with punctate nuclear chromatin giving it salt and pepper appearance. At places areas of fibrosis and hemorrhage seen. At periphery it is covered by fibrotic capsule. On this microscopic features a diagnosis of neuroendocrine tumor was being kept and immunohistochemistry for chromagranin, synaptophysin, neurospecific enolase and S-100protein, gastrin and CD56 was advised. Immunohistochemical studies showed a positivity for neuroendocrine markers including synaptophysin, chromogranin and CD56 and all other marker were negative.

3. DISCUSSION

Gastric endocrine neoplasms are classified into carcinoid (well differentiated endocrine neoplasm), small cell carcinoma (poorly differentiated endocrine neoplasm) and tumor-like lesions (including hyperplasia and dysplasia of endocrine cells)[4]. Most endocrine tumors of the stomach are well differentiated, nonfunctioning enterochromaffin-like (ECL) cell carcinoids arising from lamina propria in the corpus or fundus[5]. Three distinct types have been recognized. Type I carcinoids are associated with autoimmune chronic atrophic gastritis. Type Ⅱ carcinoids are linked to multiple endocrine neoplasia type 1(MEN-I)) and Zollinger-Ellison syndrome (ZES). Type Ⅲ carcinoids are sporadic, without hypergastrinemia or autoimmune atrophic gastritis[6]. Types I and Ⅱ carcinoids develop through a sequence of hyperplasia-dysplasia-neoplasia, and ECL-cell hyperplasia and dysplasia are identified as the precancerous lesions of ECL-cell carcinoid. Lesions up to 0.5 cm in diameter or infiltrating submucosa are recognized as carcinoids.

In this case, superficial mass was identified in corpus mucosa of the lesser curvature, which was failed to be detected by gastroscopy and biopsy before surgery. Tumor cells in this Lesions was uniform in morphology. Their histochemical and immunohistochemical phenotypes were diagnostic of neuroendocrine tumor.

The incidence of gastric ectopic pancreas ranges from 0.6% to 13.7%, frequently in the antrum and prepyloric region on the greater curvature or posterior wall. It often locates in submucosa, lamina muscularis or subserosa. Histologically, heterotopic pancreas can be divided into 4 types: type 1, composed of all cell types, namely complete heterotopia; type 2, composed of ductal components only, the canalicular heterotopia; type 3, composed of acinar cells only, the exocrine heterotopia; and type 4, composed of islet cells only; the endocrine heterotopia[7]. In this case, the heterotopic pancreas belongs to the first type. Most of the patients with gastric ectopic pancreas are asymptomatic. When mucosa is involved, however, patients may complain of an upper abdominal pain, bleeding, and obstruction may occur. Malignant transformation has been encountered, albeit rarely, giving rise to an adenocarcinoma[8] or a neuroendocrine neoplasm. Caution should be paid to establishing a diagnosis of a carcinoma from heterotopic pancreas.

4. CONCLUSION

In summary, NET may be found in adenomas of the stomach, has characteristic morphologic features and immunoexpressions as neuroendocrine cells, and can be under or overdiagnosed due to the small size of the the lesion and overlapping histology with adenocarcinoma. This lesion can be completely treated by polypectomy or endoscopic resection technique without recurrence or metastasis.

We described a rare cases of NET arising from gastric region attach to lesser curvature and followed benign clinical courses. Recognition of this rare entity is important for accurate diagnosis and treatment.

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APPENDIX - A

Figure with Legends:

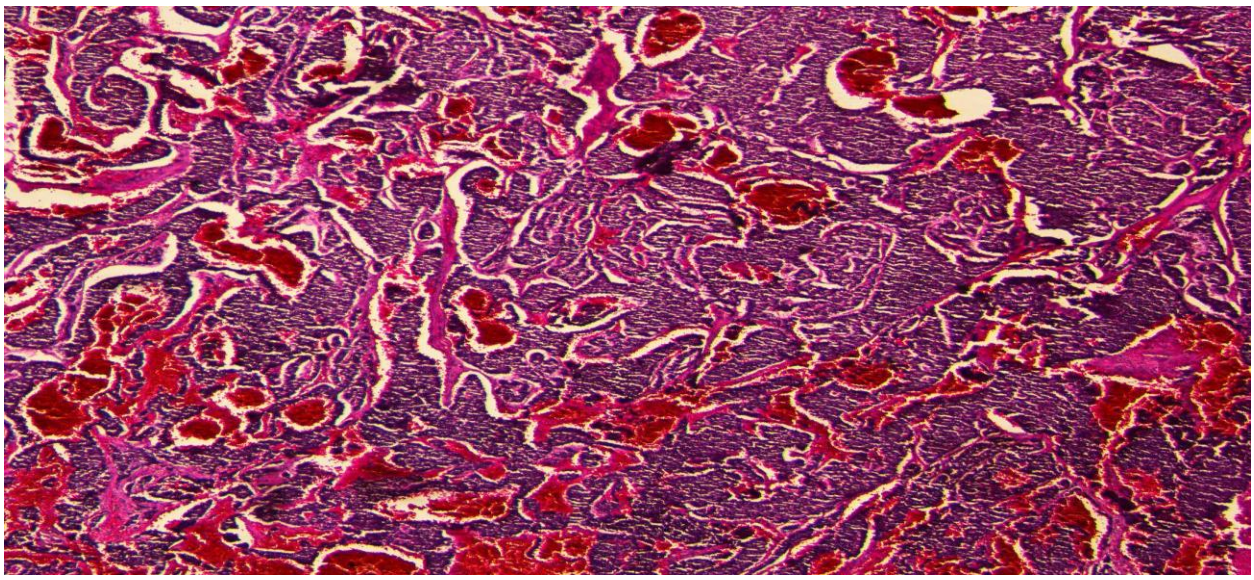

Figure 1 – shows nested pattern forming by tumor cells with fibrovascular septa and areas of hemorrhage (4X).

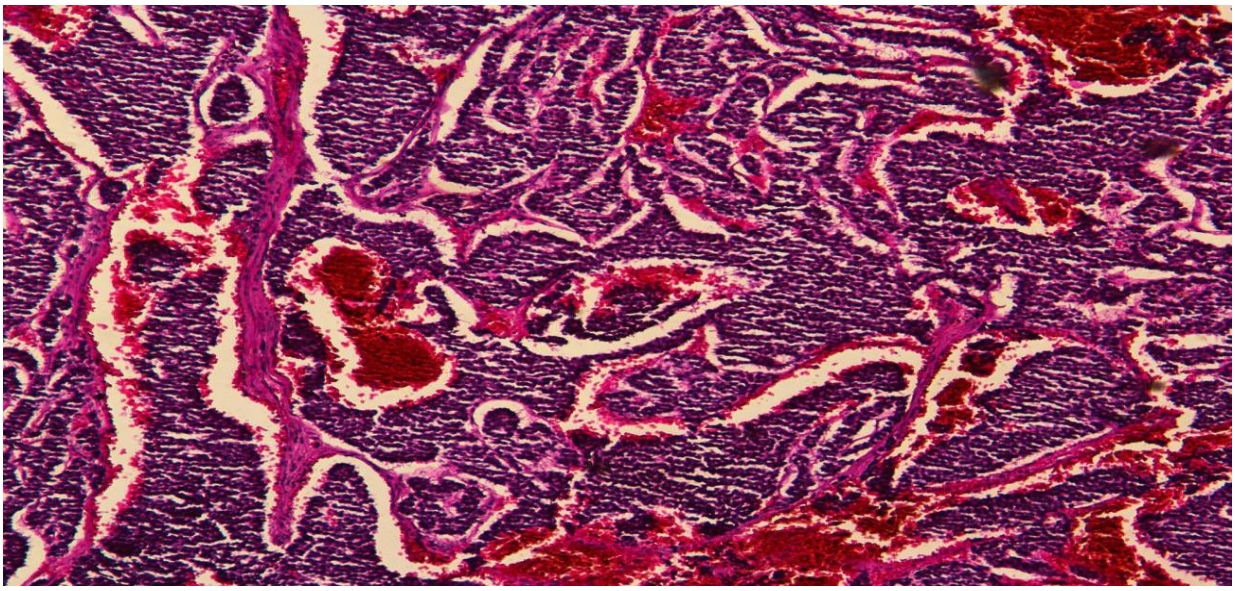

Figure 2 - Shows uniform small tumor cells separated by fibrous septa and forming nested pattern. (10X)

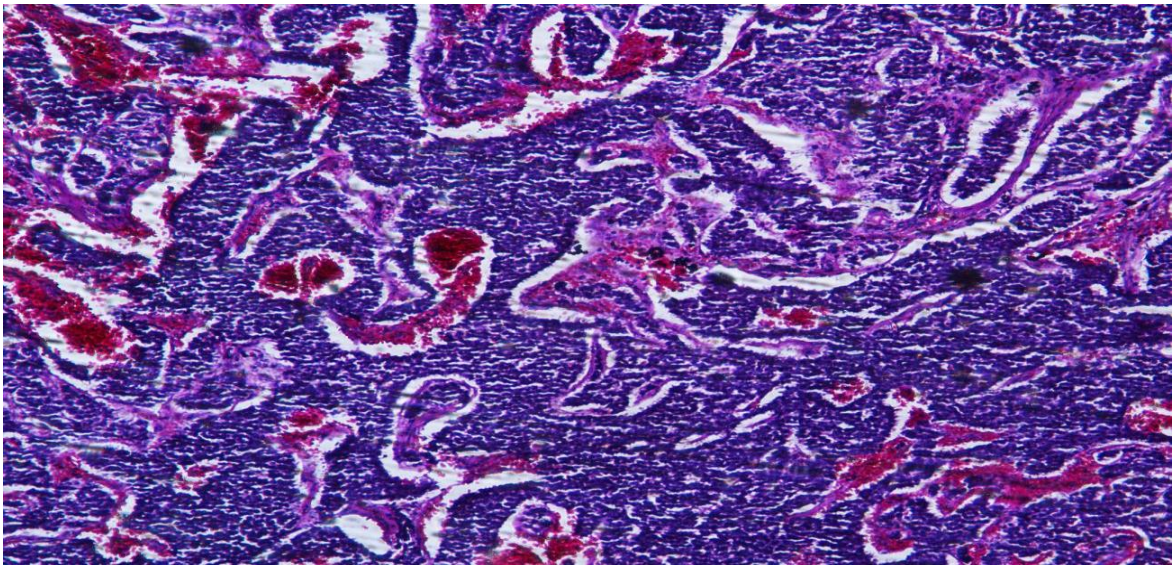

Figure 3- neuroendocrine tumor cell shows nested and gyriform pattern with areas of hemorrhage. (10X)

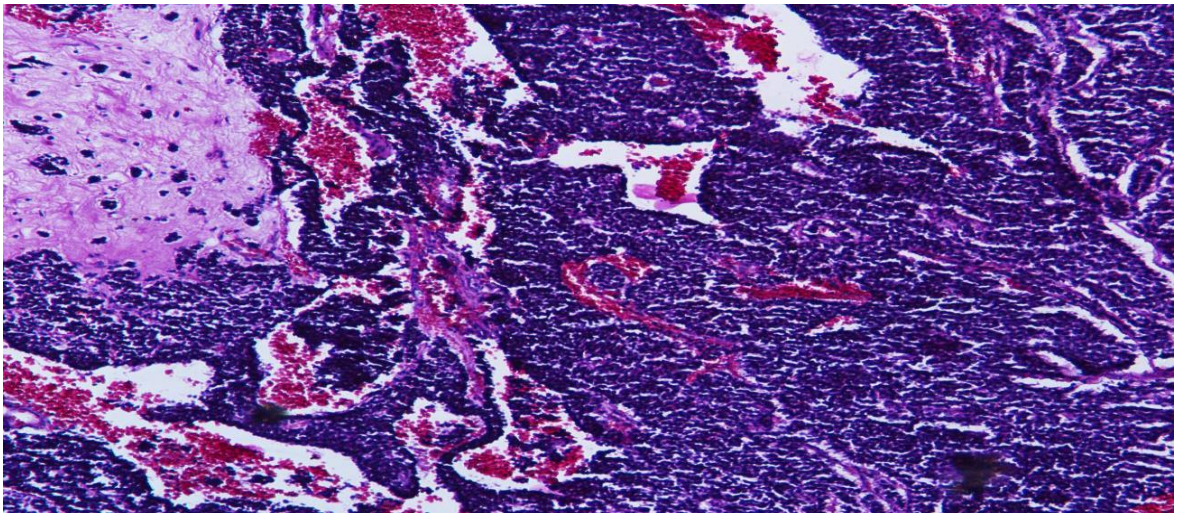

Figure 4- tumor cells are almost uniform in size and arrange in gyriform pattern. (10x)

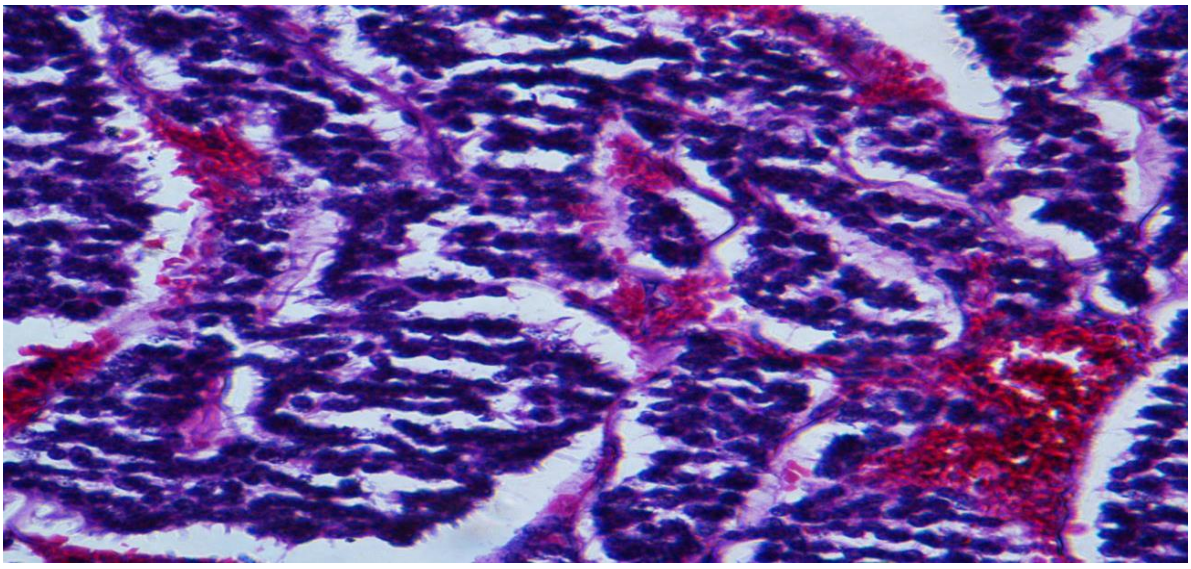

Figure 5 – tumor cells are uniform in size with salt and pepper chromatin.