Case Report

Glomus tumor of the rectum: A case report☆

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Abstract Glomus tumors are mesenchymal tumors composed of modified smooth muscle cells representing a neoplastic counterpart of the perivascular glomus bodies. They are most common in the skin and subcutaneous tissue, but also occur in the viscera. In the gut, they are almost exclusively found in the stomach. There have been only seven previous cases reported in the literature of glomus tumor in the colon, 3 of which were in the anorectal area. We report the fourth case of glomus tumor in the anorectum, and 7th in the colon. A 68 year old female was referred for abdominal–perineal resection of a locally advanced rectal carcinoma after neo-adjuvant chemotherapy/radiation. The tumor showed marked therapy response with minimal residual tumor. From the pericolonic fat, a small nodule, 0.3 cm, was found, considered to be a lymph node. On histologic examination, this nodule was composed of a vascular lesion, where dilated blood vessels were associated with small collections of bland cells. The morphology and immunohistochemistry were consistent with a glomus tumor.

Glomus tumors are generally benign, though rare cases have resulted in metastasis and death: histological features such as cellular atypia, mitosis and lymphovascular invasion do not predict malignant behavior.

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1. Introduction

Glomus tumors are rare mesenchymal tumors with pericytic differentiation and histologic features resembling those of the glomus bodies. Ultrastructurally, the glomus tumor cells have features resembling smooth muscle cells. Gastrointestinal (GI) glomus tumors are uncommon; most reports are from the stomach, with rare case reports in the small and large intestines. GI and peripheral glomus tumors are histologically and immunohistochemically comparable, but prognostic comparison between these two groups is inadvisable [1]. So few colonic glomus tumors have been reported that the metastatic potential of these tumors remains uncertain but is probably very low [2].

2. Case presentation

The 68 year old female presented with rectal adenocarcinoma, requiring pre-operative chemo-radiotherapy and abdominal–perineal resection.

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The resection specimen was processed by the Quirke method. Grossly, there was extensive fibrosis. The search for lymph nodes rendered a 3 mm firm nodule at the mesorectal fat margin.

Histologically there was a near complete response of tumor. The small nodule thought to be a lymph node was, on histologic examination, a neoplastic vascular lesion. The neoplastic cells were arranged around dilated small blood vessels. The cells appeared uniform and round with bland, small central nuclei, with intervening hyalinized stroma (Fig. 1). No atypical mitosis or atypia were observed. The appearance was consistent with glomus tumor. This was confirmed with positive staining with smooth muscle actin (Fig. 2). CD 31 stained the blood vessels around which the tumor cells were arranged, however, it was negative in the cells themselves.

3. Discussion

GI glomus tumors are rare and colonic tumors in particular have been scarcely reported in the literature. Previous reported cases were in the cecum (presenting with appendicitis-like symptoms) [1], in the submucosa of the ascending colon (presenting with abdominal pain and altered bowel habits) [2], in the pericolic fat of a rectal anterior resection for rectal cancer ( incidental) [3], in a rectal polyp (presenting as bleeding) [4], in the transverse colon (large multiple lesions presenting with liver metastasis) [5] and in the perianal region (presenting with perianal pain) [6]. The symptoms by which these tumors present are quite heterogenous and seem to vary with their location in the GI tract.

Our case was incidentally found on abdominal–perineal resection for rectal carcinoma. The patient did not complain of rectal pain; if there had been any symptoms they would have been attributed to the cancer or the neo-adjuvant therapy.

Of the previously reported GI glomus tumors, only 2 were shown to exhibit malignant behavior, one of which occurred in the stomach and the other was located in the transverse colon. Both tumors were large (6 and 7 cm respectively), and they showed no other histological features of malignancy.

Folpe et al [7] proposed the following histological criteria for malignancy in glomus tumors: deep location and size of

![Fig. 1 Glomus tumor (H&E ×50).](image1)

![Fig. 2 Tumor cells stain strongly with smooth muscle actin (×100).](image2)
more than 2 cm, atypical mitotic figures, moderate to high grade nuclear grade or ≥ 5 mitoses/50 HPF.

Nevertheless, these criteria do not seem to apply to the GI tumors in the literature. Most GI glomus tumors are clinically benign, although nuclear atypia and vascular invasion are common, and by definition all GI glomus tumors are deep in location [1]. Overall, there are no clear prognostic criteria as to the behavior of these tumors.

Gastrointestinal glomus tumors must be differentiated from other tumors as GISTs, carcinoid tumors, paragangliomas, hemangiopericytomas. In the case of a rectal glomus tumor, the possibility of the normal sacrococcygeal glomus body should be considered; in this case the location in the anterior/lateral portion of the resection specimen rules this out.

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References