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Coccyx glomus tumor – a case report

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Abstract
Glomustumor is a benign vascular neoplasm, usually located in the skin or soft tissue, characterized clinically by paroxysmal pain. The normal glomus (Latin for “ball” or spherical mass) was first described by Hoyer in 1877.[1] Histologically, it is a specialized vascular anastomotic complex surrounded by nerve elements. In 1924, Masson provided the first definitive clinical description of the glomus tumor: excruciating pain out of proportion to size, localized tenderness, and cold sensitivity. A 17 years old female presented with painful swelling in the coccyx region. Excisional biopsy was performed. On histopathological examination diagnosis of glomus tumor was made. Treatment outcomes are excellent but diagnosis of glomus tumors can sometimes test the diagnostic acumen of the physicians.
Key words: Glomus tumor, coccyx, painful, benign neoplasm

Introduction
Glomus tumors are benign neoplasms of the perivasculature accounting for 1-2% of soft tissue tumors.[2] The neuromyoarterial glomus is a cutaneous structure whose function is temperature regulation via arteriovenous shunting of blood. The most common site for these tumors is the distal extremities, especially in the subungual digital areas, although they have been described in extradigital locations such as bone, tongue, stomach, rectum, mesentery, lung, mediastinum, sacrum, coccyx and head and neck area.[3,4] Women are affected five to six times more often than men. Here, we are reporting a case of glomus tumor in a 17 years old female presented as painful nodule over sacrococcygeal region which is a rare site.

Case Report
A 17 year old female patient presented to the surgery OPD with complaints of painful swelling over the gluteal region since 1 year. The patient had difficulty in sitting. There was no history of any bowel or bladder disturbances. On physical examination, there was a swelling over sacrococcygeal region measuring 1 X 1 cm which was purple in colour and extremely tender to touch. X-ray did not reveal any abnormality. Complete surgical excision was done under general anesthesia and the excised tissue sent for histopathological examination. Grossly the tissue was soft, slightly purple in colour, measuring 0.5 X 0.5 cm. On histopathological examination section showed epidermis with underlying dermis and soft tissue [Figure 1]. Deep soft tissue showed a lesion composed of medium sized round cells present in perivascular fashion and in small nests [Figure 2]. These cells had minimally pleomorphic nuclei, acidophilic cytoplasm and occasional intranuclear inclusions. There was no obvious mitotic activity. A diagnosis of glomus tumor was
made. The tumor cells showed immunoreactivity for vimentin and smooth muscle antigen. Thus, immunohistochemistry confirm the diagnosis of glomus tumor.

Figure 1: Photomicrograph showing medium sized round cells present in perivascular fashion and in small nests (H&E 100X).

Figure 2: Photomicrograph showing round cells having minimally pleomorphic nuclei, acidophilic cytoplasm and occasional intranuclear inclusions (H&E 400X)

Discussion
Glomus tumor is a characteristically painful lesion. The pain is either spontaneously or is elicited by pressure. Glomus cells are relatively plentiful in painful lesions and may entrap myelinated nerve fibers. [5] Multiple lesions may rarely be associated with arteriovenous fistulae, with nodular lesions of finger joints, with type II multiple endocrine neoplasia, and with bone changes such as brachydactyly. These tumors are typically composed of 3 components: glomus cells, vasculature, and smooth muscle cells. They may be subcategorized as solid glomus tumor (with poor vasculature and
scantsmooth muscle component), glomangioma (with prominent vascular component), or glomangiomyoma (with prominent vascular and smooth muscle components). Solid glomus tumor is the most common variant (75%) followed by glomangioma (20%) and glomangiomyoma (5%).[2] Most glomus tumors are solitary, but about 10% are multiple. Symptoms of glomus tumor are typical and often out of proportion to the size of the neoplasm. Most glomus tumors are benign but atypical examples may exist. Symplastic glomus tumors are those with high nuclear grade but no other malignant features. Metastasis occurred only in the tumors fulfilling criteria for malignancy. Several diagnostic methods such as MRI and ultrasonography have been suggested to assist in rapid and accurate diagnosis but the histopathology remains the gold standard. The first description of glomus tumor, as painful subcutaneous nodule was made in 1812 by Wood.[7] Studies show that only 9 to 10% of cases were correctly diagnosed initially.[6] Complete excisional biopsy is the most definite method of diagnosis and treatment. Recurrence occurs due to inadequate excision of lesion. Recurrence rate after excision has been reported to range from 2% to 10.5% in extradigital tumors.[7,8]

Folpe et al have categorised the atypical tumors in the following categories: malignant glomus tumor, symplastic glomus tumor, glomus tumor of uncertain malignant potential and glomangiomatosis. Malignant tumors were considered those with deep location and size greater than 2cm/atypical mitotic figures/moderate to high nuclear grade and five or more mitotic figures per 50 high-power fields.[9] Glomus tumor is well circumscribed or encapsulated and is composed of rather solid aggregates of glomus cells surrounding relatively small vessels, whereas glomangiomas are poorly circumscribed and feature prominent vessels surrounded by only a few layers of glomus cells. Recurrence after local excision is seen in 10% of cases.[6] Case under discussion showed no atypical or malignant features and on histopathology. There was no recurrence. Patient is able to sit and can perform her daily activity.

Conclusion-

Glomus tumors are generally benign but painful lesions that may be exacerbated by pressure or temperature change and can impair one’s quality of life. Glomus tumors are slow-growing lesions; therefore, it is necessary to be cautious about tumor control without increasing morbidity and mortality.

References:


