

Case Report

Subungual glomus tumor

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ABSTRACT

We are presenting a twenty-year-old female, who presented with distal left little finger pain for more than a year. Pain is very localized to the nail root, and increases in severity in cold weather or exposed to cold water. The patient was diagnosed based on history and physical examination to have a glomus tumor and surgical excision was done after that and histopathological examination confirmed the clinical diagnosis. The aim of this case is to present a rare disease and to show the pronounced treatment of such a case.

Keywords: Glomus tumor, Nail bed, Plastic, Subungual

INTRODUCTION

In 1924 Masson was the first person who described glomus tumors pathologically as a neuromyoarterial structure.^{1,2} Glomus tumors are benign rare neoplasms accounting for not more than 2% of the soft tissue tumors and 1-5% of hand tumors.²⁻⁶ Glomus tumors are composed of nerves, muscles and arterial components and they are small in size, not exceeding 3 mm and most likely found in the subungual regions.¹ They can present at any age but the average age at presentation is from 30-50 years.^{3,6} The classic triad of presentation is intermittent pain, temperature sensitivity and point tenderness.⁷ On examination it is difficult to palpate any mass when it is less than 7 mm.⁶ The Definitive treatment for glomus tumor is complete surgical excision which leads to pain relief and cure.^{1,5}

CASE REPORT

Twenty-year-old female, not known to have any medical illnesses. Presented to the plastic surgery clinic complaining of distal left little finger pain for more than two years. Pain was severe and localized mainly at the root of the nail aggravated mainly by cold weather.

The patient denied any history of trauma. On examination there was irregular growth of the left little finger nail and point tenderness mainly over the root of the nail (Figure 1).



Figure 1: Preoperative marking of maximum point of tenderness.

Based on the history and physical examination glomus tumor of the left hand was suspected and the patient underwent elective excision of left little finger glomus

tumor. Intraoperatively and under aseptic measures the whole nail has been removed and a tiny shiny mass was noted on the nail bed (Figure 2) which has been excised down to the periosteum and sent for histopathology (Figure 3).



Figure 2: Shiny mass at the nail bed.



Figure 3: Post excision of the mass.

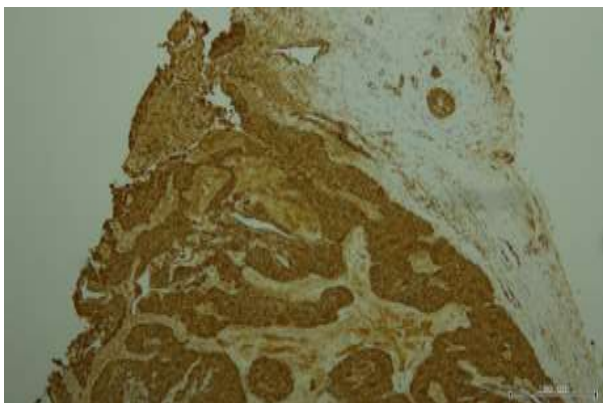


Figure 4: Positive smooth muscle actin on immunohistochemistry.

Curettage of the nail bed was performed after that the nail bed was sutured using 6/0 vicryl rapid sutures and the skin sutured by 6/0 prolene. The patient was discharged

one day postoperatively and has been followed up in plastic outpatient clinic.

Histopathology results showed presence of small blood vessels lined by endothelial lining and surrounded by distinct large cuboidal cells with clear eosinophilic cytoplasm with a distinct cell wall and large round basophilic nuclei. Immunohistochemical stain for smooth muscle actin is positive, confirming the diagnosis of Glomus tumor (Figure 4). During her follow up the patient stated that her symptoms disappeared and she has no more complaints. In addition to that the nail started to grow in a normal pattern.

DISCUSSION

Glomus tumors are rare benign soft tissue tumors which were described as painful subcutaneous tubercles in 1812 by Wood and as a neuromyoarterial tumors in 1924 by Masson.² It is formed of nerve cells, muscle cells and vascular components¹ and its function in thermal regulation of the skin.⁵

Patients who have glomus tumors usually present with a triad of pain, point tenderness and temperature sensitivity similar to our case, but this triad is not specific.^{3,8} Pain is due to increased intra-capsular pressure of the tumor due to myofilaments contraction in response to temperature changes.⁸

Glomus tumors constitute 1-2% of hand soft tissue tumors and it is found under the finger nail in 50% of the cases, while it may be multiple in 2.3%.^{3,5} These tumors are not only found in the hands, they may be seen in other parts of the body such as stomach, knees, shoulder, middle ear and mediastinum.¹

Glomus tumors are usually diagnosed clinically based on history and physical examination.^{1,3,5} In addition to that high resolution MRI is considered the best imaging modality with high sensitivity and specificity in detecting glomus tumors as small as 1 mm.^{3,5-7} The histopathology of glomus tumors shows polygonal or cuboidal cells with distinct, small, regular nuclei. They appear to have a proliferation of dilated capillaries.

A confirmatory test would be testing positive for smooth muscle actin that are expressed by the spindle muscles and glomus cells within the tumor.^{2,6} For complete cure and relief of pain, complete surgical excision of the lesion is the modality of choice with a recurrence rate of the tumor ranging between 5 to 50% depending on the surgical approach.^{1,3,5,7}

CONCLUSION

Glomus tumor is considered a benign tumor with a high recurrence rate. Definitive treatment is surgical excision of the tumor. Careful history and physical examination with a high index of suspicion are mandatory in diagnosing

glomus tumors. MRI is the imaging modality of choice for diagnosing such a condition.

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