

Glomus Tumor of Digit: A Case Report

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ABSTRACT

Glomus tumors are one of the rare benign tumors accounting for <2% of all the soft tissue tumors in the body with a female propensity and more commonly seen in digits. We report a case of glomus tumor in a 34-year-old female with excruciating pain and mild swelling over distal phalanx of left ring finger which was initially missed for 8 months. The diagnosis was made clinically and confirmed histopathologically after thorough exploration and excision. The present case describes a rare but not uncommon tumor which can be diagnosed clinically with an excellent prognosis and immediate symptomatic relief.

Key words: Distal phalanx, glomus tumor, soft tissue tumor

INTRODUCTION

The glomus tumors are rare benign hamartomas arising from the glomus body and are formed by nerve, muscle, and arterial components. The normal glomus bodies are found in the dermal reticular layer and help in the thermoregulation of the skin, especially at the fingertips with more affinity toward female gender in the third or fourth decades.^[1] There persists a dilemma in diagnosing this tumor clinically due to their vague presentation and excruciating pain. We report a case of glomus tumor which was initially missed to diagnose.

CASE REPORT

A 34-year-old left-handed dominant female, homemaker by occupation came to the outpatient department with the complaints of severe pain over the tip of left ring finger for the past 8 months. The pain was insidious in onset, gradually progressive, sharp throbbing type, and paroxysmal, especially at night affecting her activities of daily living. The patient specifically mentioned about increased intensity in pain when exposed to ice or cold weather. There was no history of antecedent trauma or injury to finger. There was no history of associated constitutional symptoms or similar complaints in the past. There were no medical comorbidities. The patient was treated empirically with analgesics with minimal relief.

On examination, the patient had severe touch tenderness on the radial aspect of terminal phalanx of the ring finger with a small palpable nodule. The temperature over the skin was normal. The systemic examination was within normal limits. Strong suspicion of glomus tumor was kept, and further investigations were carried out. X-ray of the left hand revealed no bony involvement. Blood investigations were normal. Thus, a decision to explore was made.

The patient was operated under regional anesthesia. A 2 cm curvilinear incision was made at the volar aspect of the distal phalanx along the radial border [Figure 1]. The pink tumor was exposed after incising the skin layers and was found to be just adherent to the underlying digital artery [Figure 2]. The tumor was removed in total [Figure 3] and was further sent for histopathological investigation. There was an immediate improvement in pain after the excision of tumor. Histopathological report showed the presence of fibrovascular tissue with round cells and uniform nuclei in regular groups. Dilated and congested capillaries were found around the cells. These findings confirmed the diagnosis of a glomus tumor. The patient was followed up regularly for 2 years, and she showed no signs of recurrence.

DISCUSSION

Ever since Masson and Weil described 34 cases of previously misdiagnosed glomus tumor, it gained significant attention among the treating physicians.^[2] The tumor comprises nerve fibers, blood vessel, and muscle cells, and thus, it is also called as neuromyoarterial tumor or glomangioma. The most commonly affected area is the dermis, especially the nail bed due to its least resistance for the tumor to grow but can also be seen in areas such as stomach, shoulder, knees, mediastinum, and also the middle ear.^[3]

This tumor usually occurs in isolation with a classical clinical triad of paroxysmal pain, pinpoint tenderness, and cold hypersensitivity. The pain can be excruciating with gradual progression. Pain is typically more during the night time, thus affecting the sleep of the patient. Neural origin and compression of the cells with central necrosis have been the proposed hypothesis for the same.^[2]

A variety of clinical tests have been proposed by physicians with varied results. The Love's pin test described in 1944 comprises

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Figure 1: Incision



Figure 2: Exposure of the tumor

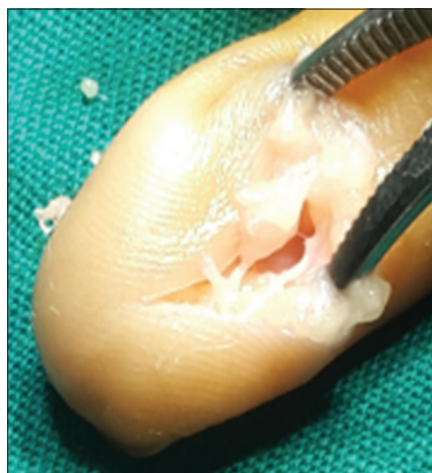


Figure 3: Complete excision of the tumor

applying localized pressure with pointed instruments such as head of a straight pin or end of a paperclip to localize the tumor in more precise manner.^[4] The ischemia test as described by

Hidreth^[5] mentions that when the arterial pressure of the affected arm is raised with the use of an arm cuff, the tenderness caused by the tumor disappears due to the transient ischemia. Based on the similar principle, the cold sensitivity test comprises immersing the affected limb in cold water for 60 s following which there is the disappearance of pain around the lesion.^[4] However, the cold sensitivity test is practically difficult in outpatient department. The diagnosis of the patient in the present study was initially missed due to lack of awareness among the treating physician and also because of the fact that the X-ray of the hand was normal.

X-rays are usually non-diagnostic in the initial stages until the bony erosion has taken place. Magnetic resonance imaging (MRI) can help in delineating these tumors and differentiate it from other cysts. Ultrasonography has low sensitivity due to the miniature size of the tumor. Other investigations such as arteriography, thermography, and scintigraphy have a limited role due to their invasive nature and poor sensitivity.^[1] MRI was not performed in the present case due to the economic constraint.

There is hardly any debate regarding the treatment modality for this tumor with the consensus toward surgical excision. Complete excision was performed in the present case with proper encapsulated tumor mass. There was no recurrence at the end of 2-year follow-up.

CONCLUSION

Clinical suspicion of glomus tumor should always be kept in patients with severe pain in digits with unknown etiology. Diagnosis of this uncommon tumor is often clinical and proper localization of the tumor is warranted to further decide the surgical approach. A thorough excision of the tumor gives excellent and immediate pain relief and is essential to avoid recurrence.

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