

Original Article

Subungual Glomus Tumor- Clinical Presentation and Management

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Abstract:

Glomus tumor is an uncommon condition that accounts for about 1% of all soft tissue tumors in the body. Glomus tumor is well known for its unusual presentation and long-standing symptoms due to delay in diagnosis. Authors have presented the clinical behavior and treatment of 6 patients with subungual soft tissue mass. Following surgical excision, all patients were cured of symptoms and at the end of follow up, no recurrence occurred; post operative nail deformity was insignificant.

Keywords: Glomus tumor, Subungual, treatment.

Introduction:

Glomus tumor or glomangioma is an arteriovenous malformation (Hamartoma) surrounded by myoepithelial cells and nerve fibrils¹. These specialized organs (glomus body) commonly present beneath the nail beds of phalanges and is thought to be made for temperature regulation². Glomus tumor can rarely occur in stomach, intestines, tendons, bones and other viscera³.

Glomus tumor constitutes only 1% of all soft tissue tumors of body⁴. It is a benign tumor and unique for its triad of presentation-disproportionate pain, cold and touch sensitivity and paroxysm of attack⁵. Small size of the tumor and absence of diagnostic findings causes a long standing suffering to the patient⁶. Appropriate surgical excision ensures the cure⁷.

We have diagnosed 6 patients who had unremarkable chronic pain and hypersensitivity of finger tips for long duration.

Five had tumor in finger nail beds and one in the toe nail bed. All patients were diagnosed by clinical examination and plain x-ray. In two cases MRI was done. After excision, histopathology was done in all cases. They all showed features consistent with glomus tumor. All patients were relieved of symptoms after surgery.

Patients & Methods:

We studied 6 patients with subungual mass clinically diagnosed as glomus tumor. This study was conducted between September 2020 to August 2022. Operations were done in Monowara Sikder Medical College Hospitals of Shoriyotpur. Five females and one male with an average age of 33 years (range 21 to 56 years). Five patients had finger nail disease, of them 3 patients in middle finger and 2 patients in ring finger.

Interval between clinical onset and diagnosis average 2 years (range 6 months to 2 years). Clinically all patients had pain at the site, hypersensitivity to touch and exposure to cold. On examination, increased convexity of nail bed was found in one patient, one had dark bluish spot at nail bed. One patient had subcutaneous swelling between nail and nail fold. Loves test Hildreth's test and cold exposure test was conducted in all patients.

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Loves test is positive when severe tenderness is elicited by pressing with the tip of a pin over the suspicious region of nail bed. Hildreth's test is positive when pin point tenderness is abolished upon application of a tourniquet on the affected limb.

X-ray study was done in all cases; 3 were normal, 1 had scalloping and narrowing of affected phalanx. MRI was done in 2 patients- one report suggested subungual mass but the other report was inconclusive.

All patients were operated by digital block. Nail avulsion done in all patients under a finger tourniquet using a glove's finger. Two larger tumors were visible after removal of nail plate which protruded above the nail bed but four were smaller lesions found after longitudinal incision of nail bed. The tumors were encapsulated and excised enmass, size were between 0.2 cm to 1.4 cm. Histopathology revealed glomus tumor in all 6 cases.

Nail plate was resutured to its bed by 4 /0 non absorbable suture, soft dressing applied for 7 days and limb kept in a sling. At 2 weeks sutures were removed. Full grown nail plate developed within 3-months time. The records which included clinical impression, operation record, and pathology report, imaging study, location and size and biopsy findings of all 6 patients are preserved.

Results:

All 6 patients were relieved of symptoms after surgery. Postoperative nail bed pain continued for 2 weeks to 3 weeks which eventually subsided. Nail deformity was evident in one patient. No recurrence occurred at the end of follow up.

Discussion:

Glomus tumor is a rare soft tissue tumor of body but not uncommon to hand surgeons⁸. Although small in size and benign in behavior and minimally affects the patients limb function, the pain is disproportionately high and patient frequently changes doctor to get relief of symptoms. Shugart et al⁹ in his large series have shown that many patients were treated for

functional disorder or neurosis for long periods.



Fig 01: Clinically presented with curved middle finger

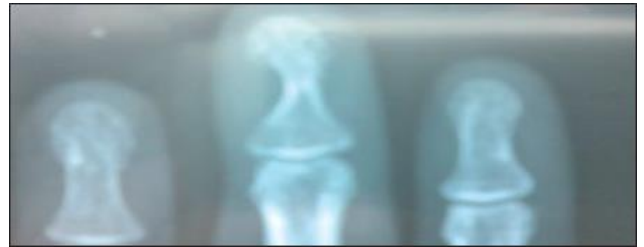


Fig 2: X-ray showing scalloping on the radial side of distal phalanx of middle finger.

King⁶ reported that pain starts long before the development of tumor. High index of suspicion, positive loves test¹⁰, x-ray findings can aid in diagnosis but high resolution MRI is confirmatory whereas conventional MRI is often inconclusive Histology shows multiple vascular channels called Sucquet -Hoyer¹¹ canal and comprised of a single layer of endothelial cells lined by their fibrous layer which are surrounded by numerous glomus cells. Glomus cells are modified myoepithelial cells with contractile properties. Nerve fibrils within the glomus body are thought to be the cause of pain¹².



Fig 3: MRI findings in case of toe glomus tumor

In our series most patients are of young age group with female predominance and middle finger nail

mostly affected. One patient had toe nail affection. Other less common sites of glomus tumor are head, cheek, eyelid, stomach, ligamentum patellae and viscera¹³.



Fig 4,5: Peroperative pictures showing subungual glomus tumor

Surgical excision is the only treatment⁸. Complete recovery after removal of an encapsulated mass is the rule. In this series all patients became symptom less after removal of the tumor. All specimens after surgery were studied histopathologically. Shugart et al⁹ describes vascular myoma, Haemangioma, Sclerosing angioma can mimic the feature of glomus tumor. No recurrence occurred till last date of follow up. Patric Maxwell³ reported incidence of recurrence is 25% due to multiple lesions.



Fig 6: Excised Glomus tumor mass



Fig 7: Reposition of nail plate

Recurrence can also occur due to inadequate excision. Nail deformity can be avoided by

repositioning of the avulsed nail which supports regeneration of healthy nail.

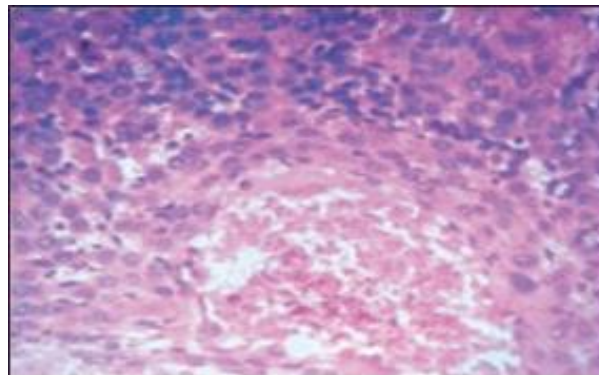


Fig 8: Microscopic findings

Conclusion:

Even though Glomus tumors are very rare, it should be suspected when there is disproportionate pain. Subungual glomus is more common and surgical excision of the lesion is the management of choice. Patients became satisfied even with mild deformity of nail plate after surgery.

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