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Subungual Glomus Tumor- Clinical Presentation and Management

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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.

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INTRODUCTION

Glomus tumor or glomangioma is an arteriovenous malformation (Hamartoma) surrounded by myoepithelial cells and nerve fibrils[1]. These specialized organs (glomus body) commonly present beneath the nail beds of phalanges and is thought to be made for temperature regulation[2]. Glomus tumor can rarely occur in stomach, intestines, tendons, bones and other viscera[3].

Glomus tumor constitutes only 1% of all soft tissue tumors of body[4]. It is a benign tumor and unique for its triad of presentation- disproportionate pain, cold and touch sensitivity and paroxysm of attack [5]. Small size of the tumor and absence of diagnostic findings causes a long standing suffering to the patient[6]. Appropriate surgical excision ensures the cure[7].

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.

Loves test is positive when severe tenderness is elicited by pressing with the tip of a pin over the suspicious region of nail bed. Hildreths 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 tumor 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 surgeons[8]. 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 all[9] 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

King[6] reported that pain starts long before the development of tumor. High index of suspicion, positive loves test[10], 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 -Hoyer[11] 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 pain[12].

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, check, eyelid, stomach, ligamentum patellae and viscera[13].

Fig 4,5: Peroperative pictures showing subungual glomus tumor

Surgical excision is the only treatment[8]. 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 al[9] describes vascular myoma, Haemangioma, Sclerosing angioma can mimic the feature of glomus tumor. No recurrence occurred till last date of follow up.

Patric Maxwell[3] 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.

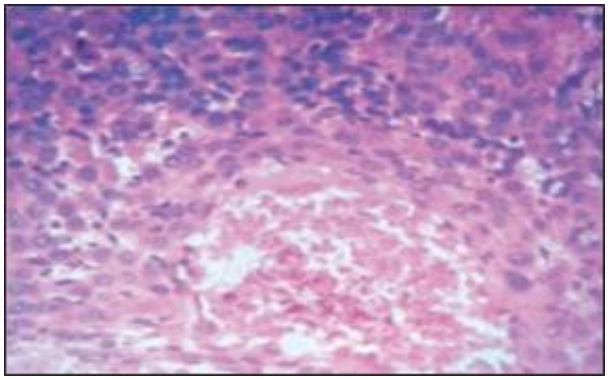

Fig 8: Microscopic findings

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.

REFERENCES

1. Mason, M.L., and Weil, ARTHUR: Tumor of a subcutaneous glomus, Surg., gynec., and Obstet., 58: 807-816,1934
2. Popoff N W.: The Digital Vascular System. With Reference to the State of Glomus in Inflammation, Arteriosclerotic Gangrene, Diabetic Gangrene, Thromboangiitis Obliterance, and Supernumerary Digits in Man. Arch. Pathol., 18:295-330,1934.
3. G. Patrick Maxwell, MD et. Al, Multiple Digital Glomus Tumor, The Journal of Hand Surgery., ,Vol. 4, No.4, 363-367, 1979
4. Boyes, J.H..Bunnell's Surgery of the Hand. Ed. 4, p. 721. Philadelphia, J.B. Lippincott Co., 1964.
5. KM Katira, BS, and Mary T. Kim, MD: Subungual Tumor, www.ePlasty.com, Interesting Case, September 29, 2010.
6. King, E.S.J.(1954): Glomus Tumor. Australian and Newzealand Journal of Surgery, 23, 280.
7. Wood, William: On Painful Subcutaneous Tubercle. Edinburgh Med. J., 8:283,1812.
8. Carroll RE, Berman AT: Glomus Tumors of the hand. J Bone Joint Surg [Am]54:691,1972
9. Shugart RR, Soule EH, Johnson EW Jr: Management of glomus tumors. Surg Gynecol Obstet 117: 334, 1963
10. Love, J. B.: Glomus Tumors: Diagnosis and Treatment. Proc. Staff Meet. Mayo Clin. , 19:113-122,1944
11. Blanchard. A. J: The Pathology of Glomus Tumors, Canadian Med. Assn. J., 44: 357-360, 1941.
12. Eyster, W. H., Jr., and Montogomery, Hamilton: Multiple Glomus Tumors. Arch. Derm. And Syph., 62:893-906, 1950
13. Adair FE: Glomus tumor, clinical study with report of 10 cases, Am J Surg 25: 1, 1

