GLOMUS TUMOR: ALLEVIATION OF SYMPTOMS AFTER THE SURGERY

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ABSTRACT

Objective: To assess the outcome of surgical excision in management of subungual glomus tumour.

Material and Methods: It was a prospective and descriptive study carried out in the Plastic Surgery unit, Hayatabad Medical Complex, Peshawar and Plastic surgery clinic. From 1994 to 2001, all patients presenting with clinical diagnosis of subungual glomus tumour and later confirmed by histopathology were included in the study. All patients were regularly followed up for recurrence of symptoms/tumours.

Results: A total of 6 patients were managed during study period of 7 years. Predominantly the young females were affected (M:F = 1:5). The average symptoms duration was 3.6 years. Symptoms were completely alleviated by surgery. There was no sign of recurrence on clinical examination on an average follow up of 34.5 month. Minor skin infection occurred in one case. No other complication was recorded.

Conclusion: The threshold for the possible diagnosis of glomus tumour should be kept low in patients presenting with severe subungual and finger pulp pain on localized pressure and cold exposure. Surgical excision provides cure to this crippling disease.

Key words: Glomus Tumour, Subungual.

INTRODUCTION

Glomus tumor was first described by Barre and Masson in 1924. Glomus is a Latin word meaning a ball composed of wool or threads. The normal glomus is a neuromyoarterial canal system called the Sucquet–Hoyer canal which regulates the temperature and blood supply of the extremities. Glomus tumor arises from these glomus bodies. The common sites of occurrence are subungual, finger pulp, base of the foot and rest of the body in descending order. Common age of occurrence is 4th and 5th decades, though no age is exempted.
Females are more commonly affected. Etiological factors remain unknown though history of mechanical or physical trauma may be there. Pain is the symptom due to which patient presents early. Despite this early presentation the diagnosis is delayed on the part of clinician. Rarity of the condition and wide range of differential diagnosis are contributing factors in this delay. The excruciating pain cripples the patient. It is a rare benign tumor and literature at national level as well as abroad is quite scanty on this topic. Objective of this study was to evaluate the alleviation of symptoms as a parameter for successes of surgery.

![Fig. 1. Glomus Tumour (Excised)](image)

**MATERIAL AND METHODS**

This study was a retrospective and descriptive study. Record of all the patients with biopsy proven glomus tumor was retrieved from our computer database. Study period was from January 1994 to June 2001. Patients with negative exploration/histopathology were excluded from the study. A thorough history was taken and proper clinical examination was recorded in all patients. X-ray of the affected digit was carried out in all patients as a protocol. C.T scan was done in one patient. A total of six patients were included in this study. All patients were treated by surgical enucleation under operating microscope with a subungual approach, as day case. Preoperative, and postoperative photographs were taken as routine.

![Fig. 2. Surgical Excision of Glomus Tumour](image)

Antibiotics were not used except in one case that developed minor local infection postoperatively. Histopathological examination was done on all the specimen removed.

These patients are followed up post operatively at one week, one month, six month and yearly as per protocol. No patient has been lost from follow up visit.

**RESULTS**

During the study period of 7 years (July 1994 to July 2001) six patients were treated and included in this study. Out of these six patients five were female and only one was male. Minimum age afflicted was 12 years while maximum age was 40 years the average being 27.6 years. No specific finger/hand was affected. All patients were symptom free on regular follow up visits. Mean follow up was 34.5 months. Mean duration of symptoms was 3.6 years. No mortality occurred. Only one patient suffered minor local infection which was treated by oral antibiotic successfully. Histopathological examination
showed benign glomus tumor in all the six patients.

Case 1

Our first patient was a 12-year old girl. She was complaining of intermittent excruciating pain in the Right index finger & pain under the nail, since childhood. She was extensively investigated by different orthopedic surgeons but remained undiagnosed. On examination, there was localized tenderness on palpation. Nail ice cube test was positive & the transillumination test & X Rays were unremarkable. The diagnosis of glomus tumor was made on clinical grounds.

Case 2

Our second patient was a 40yr old male who was complaining of pain in the left thumb for the last 3yr. The pain was burning in character & intermittent. On examination there was subungual tenderness. The nail ice cube test and transillumination test were positive. On X- Rays there were no abnormal findings.

Case 3

Our third patient was a young 25yr old female. She complained of severe pain in the left ring finger for the last 4 yrs. The pain was intermittent and she was correlating her pain with trauma to the left ring finger in the past. On examination there was a red discoloration beneath the left ring finger nail. There was no tenderness on palpation. The nail ice cube test and transillumination test were strongly positive. X Ray findings were unremarkable. The diagnosis was made on clinical suspicion.

Case 4

35 years female with severe pain in the proximal nail bed of left middle finger of five years duration was our fourth case. Examination showed no discoloration. Ice cube test, transillumination test were positive and localized tenderness was present.

X-ray and C. T were not helpful in diagnosis or localization. The diagnosis was again on clinical grounds.

Case 5

The fifth case was a 35 years female with pain in the nail bed of right ring finger on pressure and exposure to cold. On examination red streak was visible. Ice cube test and localized tenderness were positive. X-rays of the relevant finger were unremarkable.

Case 6

The sixth case was of a 23 years female with pain in left ring finger on touch and pressure. Examination showed no discoloration but strongly positive ice cube test and localized tenderness. Diagnosis was on clinical basis.

Discussion

Glomus tumor is a rare benign growth and constitutes 1-5% of the hand tumors. Rarity of this lesion is reflected in our current study with only six patient encountered in seven year. Predominant affliction of the young females noted in our series is in accordance with the observation of other workers.

During a mean follow up of 34.5 months we did not noticed any malignant change.

![Typical location of Glomus Tumours](image-url)
Wetherington et al reported change to malignant variant.

All of our cases had solitary subungual lesions, which are the most common site in literature. No site is exempted from glomus tumor. Rare areas e.g. penis, stomach, head and neck, uterus, foot, knee, muscles etc has been reported to be involved by this benign lesion. Subungual glomus tumor has generally a predictable benign course with complete cure after proper excision. Metastasis to the regional lymph nodes and to other sites has been reported in head and neck tumors. Because of this different behavior these tumors are considered as different entities. Occasional reports of multiple/synchronous glomus tumors are well documented in world literature.

The incidence of multiple tumors in adult has reported to be about 2% although in children they are more frequent with an autosomal dominant pattern. We did not notice a single case of multiple tumors. The reason may be that most of our patients were adult.

Mean duration of symptoms in our patient was 3.6 years. Delay in diagnosis was mainly due to missed diagnosis. This state of affairs is not unique to our patients. In many series the diagnosis was delayed as some other differential diagnosis e.g. neuroma, vascular malformation, osteoma, exostosis etc was considered. Due to unrecognized small lesion, the patient may even be labeled as malingerer. Therefore, it is not an over emphasis that before labeling a patient as malingerer, a possible pathologic reason must be excluded by all available means.

In all of our six cases the diagnosis was wholly on clinical grounds. Classical triad of excruciating pain, localized tenderness and cold sensitivity were present in all cases.

Fig. 5. Local pain, tenderness and cold sensitivity at finger tips

History of mechanical or physical trauma prior to the onset of symptoms was noted in more than 60% of the patients by Rettig and Strickland. Two of our patients (33%) had history of mechanical trauma prior to the symptoms.

Typical picture on X-ray is that of bone erosion which present in 30-50% of the cases. Though X-ray was done in all the cases and C.T in one case none was helpful in diagnosis. C.T and MRI were found helpful by some workers. Other recommend ultrasound examination as first line investigation. Despite the widespread availability of sophisticated investigations like C.T, MRI, MRA, the diagnosis of subungual glomus tumor is based on clinical grounds as in our case. Sensitivity of clinical tests e.g. ice cube test, transillumination test, pencil tip test and tourniquet test was 100% in our series and similar findings has been reported by others.

All of our patients were symptom free after mean follow of 34.5 months. Recurrences reported by others may be due to incomplete excision, multiple/synchronous tumors or true infiltrative change in the
primary lesion. The role of operating microscope/loops in complete enucleation of this tumor is very important as incomplete excision may lead to recurrence. Only one of our patient developed minor skin infection, which was dealt successfully by antibiotics. Postoperative nail deformity is a common complication after subungual glomus tumor surgery. This is an aesthetically unacceptable complication, especially in young females, in whom the glomus tumor is common. We did not noticed nail deformity in any of our case. Gentle handling of the tissues especially the nail bed complex, helps in avoiding this complication.

**CONCLUSION**

Glomus tumor is a benign neoplastic growth that cripples the patient due to severe excruciating pain. Diagnosis is often delayed on the part of clinician who fails to think of it. Threshold of diagnosis for glomus tumor should be kept low especially in young females presenting with digital pain on touch and exposure to cold. Early surgery under magnification with complete enucleation is curative.

**REFERENCES**


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