

Tumors of the Hand: A Single Centre Retrospective Review

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Abstract: ***Background:** Tumours of the hand are a very serious and a very complex entity to manage. Hand tumours occur infrequently and are commonly benign, however when malignant they could be life threatening. In this study, we would like to take a look at the incidence, distribution, sex predilections and treatment options among patients attending the plastic surgery department at chengalpet government medical college. **Methods:** This is a retrospective study done in Chengalpet medical college between January 2014 to January 2019 in the department of plastic and reconstructive surgery. **Results:** A total of 100 patients were assessed out of which 63 were male and 37 female. 2% of the lesions were malignant and 98% of the lesions were benign. The most common benign tumors were giant cell tumour followed by enchondroma. Other benign tumors were pyogenic granuloma, lipoma, fibroma, schwannoma, glomus, hemangioma, neurofibroma and osteoma. Primary malignant tumors were extremely rare and we have reported one melanoma, and one squamous cell carcinoma involving the hand skeleton. **Conclusion:** Hand tumours in Chengalpet Tamilnadu India tend to affect young adults with a slight male preponderance. Majority of the tumours were benign. Primary hand malignancy was uncommon and mortality was low. Nearly all (98%) of the surgically treated patients returned to their premorbid occupation.*

Keywords: Benign bone tumors, Hand tumors, Malignant bone tumors

1. Introduction

Tumours of the hand are very complex as they arise from wide range of structures like the bone, nerves, vascular and skin and hence very challenging in making a diagnosis¹. In our setting majority seek medical advice on account of aesthetic concerns, although when large, functional considerations become significant. Complex lesions will need excision and proper reconstruction of form and function hence making a role of plastic surgeon very important².

In this study we have done a retrospective analysis to assess the incidence, distribution, sex predilection and various options of treatment. Furthermore we would also like to highlight that 98% of tumours are benign and tumours which are malignant needs proper staging as well as diagnostic and therapeutic approach.

2. Materials and Methods

This study is a retrospective study over a period of 5 years from January 2014 to January 2019. All the materials were collected from records department attached to the plastic surgery department. All the lesions of the hand were included in the study except for the ganglion. The age of the patient, sex, location of the tumour in the hand, imaging studies and surgical intervention for each cases were collected. A pre operative incisional biopsy was done whenever required. All patients had enbloc excision of the lesion carried out under digital, intravenous regional or general anaesthesia as required. All specimens were evaluated by standard histopathological techniques. All patients were followed up for 12 months.

3. Results

In this study which was done by collecting data between Jan 2014 to Jan 2018 a total of 100 cases of hand tumours were managed. Of the 100 patients with hand tumours 63 were male and 37 female. 2% of the lesions were malignant and 98% of the lesions were benign.

Results – Distribution

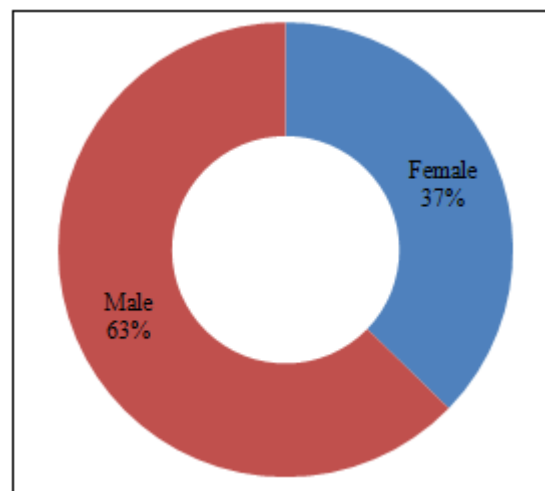


Figure 1: In this study of 100 patients 63% of patients were male and 37% Of the patients were female

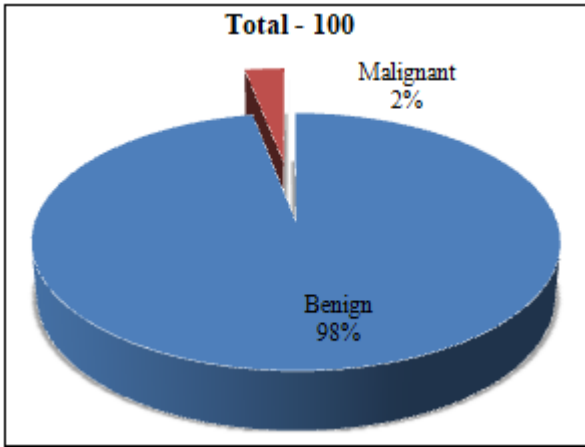


Figure 2: In this study of 100 patients 98% of cases operated were benign and only 2 % were malignant

and rest the remaining 8%. Of the fingers the most commonest was the middle finger and this was followed by thumb and then ring finger. Lesions were more in the right hand than the left hand. Dorsal lesions were more common than the volar region.



Figure 4: A typical Giant cell tumour dorsal aspect left hand little finger

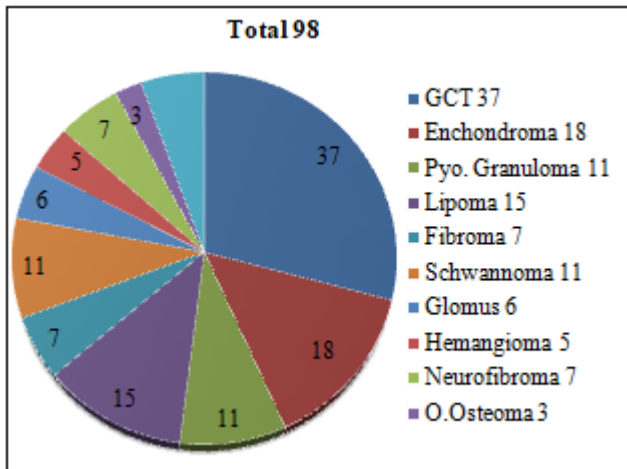


Figure 2: Of the benign lesions after excluding ganglion the most commonest lesion was giant cell tumour and followed by enchondroma. The least commonest benign lesion was osteoma



Figure 5: X-ray left hand AP view

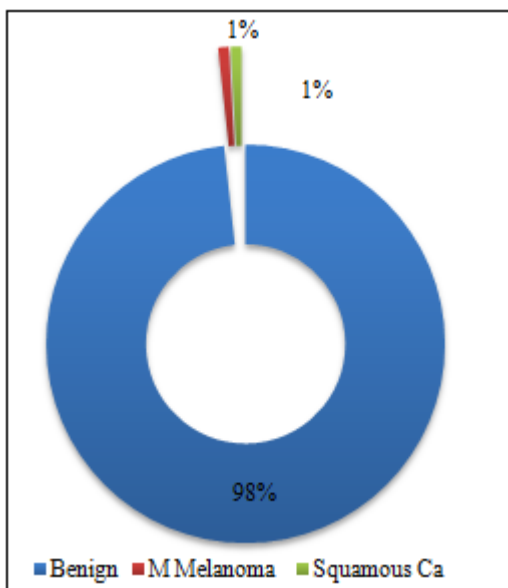


Figure 3: Of the two malignant lesions in this study one was malignant melanoma and other was squamous cell carcinoma



Figure 6: Intraoperative view

Majority of the lesions were involving the fingers and next common region was the wrist. Both these accounted for 91%

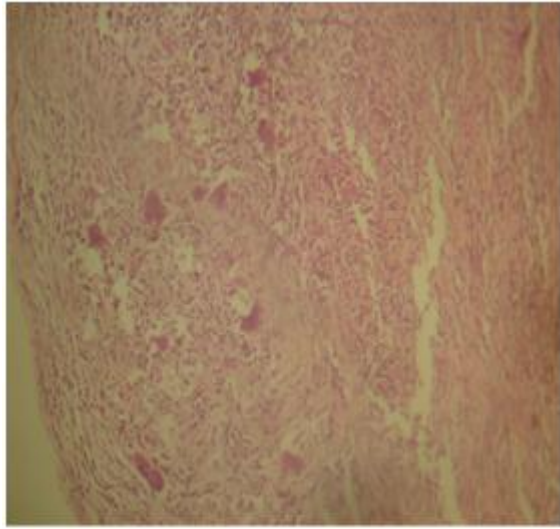


Figure 7: Giant cell tumour cell tendon sheath (H & E, X20).
A circumscribed moderately cellular tumour composed of sheets of round, polygonal and multinucleated giant cells

4. Discussion

Hand is the most functional part of the body. Tumours of the hand can be classified into benign and malignant. It is very important to make an early diagnosis for a better outcome of results. The first step in making a proper diagnosis is history and proper clinical evaluation. History of trauma can give rise to a tumour like lesion which may settle by itself most of the time. Following clinical evaluation proper set of investigations help in making a clear diagnosis. Bony lesions can be diagnosed with a simple x ray of the hand and rarely may need a CT in complex lesions. MRI is useful in a soft tissue lesion, it helps to assess the extent, plane and plan of excision. In lesions involving the nerve, nerve conduction study may also be useful. In vascular lesions angiogram may be useful.

In lesions where diagnosis is incomplete from above investigations an excisional biopsy can be done which can also be the definitive treatment. The most commonest lesion was the ganglion. These represent the most frequent of all hand tumours in all reported studies¹. Ganglion was excluded in this study and the next commonest was giant cell tumour. The recurrence rates have been shown to be as high as 45% in some series^{1,2}. Standard complete surgical excision was done in all our patients. We do not administer post operative radiotherapy as reported by some authors. All our patients were followed up for a period of 3 to 5 years with no recurrence in thirty-seven cases. 98% of the lesions were benign and to mention malignant tumours were accounting to only 2%. Rapidly growing lesion without any pain malignant lesion should be suspected.

Management of these lesions are multidisciplinary. Bony lesions needs excision and reconstruction depends upon the size of the defect³. Unicortical defect need no reconstruction. defect less than 5 cm can be managed with non vascularised bone graft. More than 5 cm will need vascularised bone graft. distraction osteogenesis can also be attempted. Soft tissue lesions can be excised and reconstruction is done based on defect size⁴. Excision and primary suturing is done

most of the time. In case of skin loss flap is attempted. In case of neurolipomatosis, if there is nerve loss nerve reconstruction with nerve graft is attempted.

Excision of these lesions should be done carefully because the vessels and nerves are very close to the lesions. Injury may cause functional deficit and incomplete excision can also cause recurrence.

5. Conclusion

Clinical evaluation and investigations play an important role in proper management of hand tumours. This study demonstrated a wide variety of lesions presenting as tumours of the hand. Hand tumours in Chengalpet Tamilnadu India tend to affect young adults with a slight male preponderance. Majority of the tumours were benign and nearly all patients returned to work after surgical excision of the tumour.

References

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