



CLINICOPATHOLOGICAL AND ULTRASONOGRAPHY STUDY IN SUPERFICIAL SOFT TISSUE SWELLINGS.

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ABSTRACT

Background: Soft-tissue tumors comprise a large group of mesenchymal neoplasms. Ultrasonography (USG) is a low cost, noninvasive, readily available, safe and a patient comfortable, is commonly used modality for diagnosis. USG has a specificity to accurately diagnose the type of superficial soft tissue swelling. Biopsy findings has implications in outcome and further management. Biopsy findings bear direct implications on the treatment outcomes. **Aims:** To understand relation between clinical presentation, diagnostic modalities (USG) and to correlate them with operative findings and histopathological report. **Methods:** Prospective study was conducted in department of Plastic surgery, Sambhaji Nagar, Maharashtra over 2 years from Jan 2022 to Jan 2024. History, thorough physical examination was done in 25 patients. High frequency ultrasound was done in all cases to aid diagnosis. Only benign swellings were included in study. Excision biopsy was done in all and histopathological reports were obtained. Probable clinical diagnosis obtained was then correlated with USG and histopathology. **Results:** A total of 25 patients were enrolled in the study. Of them, 13 were males and 12 were females. The mean age at presentations was 35.68 years. All of them presented with a swelling. The upper extremities were the most common sites. The size of tumor varied from few millimeters to maximum 6 cm in diameter. 6 patients have undergone previous surgeries. For all cases, simple excision was done and sent for histopathology. Post operatively none of them had recurrence and follow up ranged from 1 month to 4 years. Fibrohistocytic tumors as per WHO classification of benign soft tissue tumors showed maximum numbers (Tenosynovial GCT- 4 cases), followed by lipomas (3 cases) and hemangiomas (3 cases). There were 9 cases of pseudo tumors. **Conclusion:** Most soft tissue tumors encountered in clinical practice are benign, of which lipoma is the commonest. While simple excision suffices for most benign tumors. For soft tissue benign swelling there was 93.75% clinicopathological whereas ultrasound showed 68.75% clinicoradiological relation. For Pseudotumor it was 88.88% relation for both radiology and pathology.

KEYWORDS : Soft tissue benign swelling, Pseudotumor, Ganglion cyst, Lipoma**INTRODUCTION:**

Soft tissue tumors involve large variety of mesenchymal tumors arising from non-epithelial extra skeletal tissues and are classified as per the component they are arising from [1,2]. Soft tissue tumors (STT) are categorized into benign, intermediate and malignant. Benign tumors closely resemble normal tissue on histology and have a limited capacity for autonomous growth. Benign tumors are usually superficial, well-defined, encapsulated masses demonstrating a slow growth and are at least 100 times more common compared to their malignant counterparts [3,4]. The annual clinical incidence (number of new patients presenting to clinician) of benign STT is 3000/million population, worldwide.

Ultrasonography (USG), is first line of investigation of modality of choice for these superficial masses as it is easily available, has real time capability and cost effective [5]. Ninety-nine percent of benign tumors are superficial, and most of them measure less than 5 cm in size [6,7]. Histopathology is the gold standard diagnostic technique and helps in further management.

The purpose of this study was to co relate the preoperative clinical diagnosis sonographic diagnosis of superficial soft tissue swellings and compare it to the corresponding histopathological results.

MATERIAL AND METHODS:

Prospective study was conducted in department of Plastic surgery, Sambhaji Nagar, Maharashtra over 2 years from Jan 2022 to Jan 2024. History, thorough physical examination was in 25 patients done. High frequency ultrasound was done in all cases to aid diagnosis. Only benign swellings were included in study. Excision biopsy was done in all and

histopathological reports were obtained. Probable clinical diagnosis obtained was then correlated with USG and histopathology.

RESULTS:

A total of 25 patients were enrolled in the study. Of them, 13 were males and 12 were females.

The mean age at presentations was 35.68 years (range 1yr - 81yrs). Age wise distribution is shown in Table 1. The most common age group was 11-30 yrs. having 11 patients.

All the 25 patients had presented with a swelling rest of distribution of clinical presentation is shown in Figure 1.

The distribution of the tumor based on the site is shown in Figure 2. The upper extremities (68%) were the commonest sites.

The size of tumor varied from few millimeters to maximum 6 cm in diameter. 6 patients have undergone previous surgeries. For all cases, simple excision was done and sample sent for histopathology. Post operatively none of them had recurrence and follow up ranged from 1 month to 4 years.

Based on the histopathological examination, the type of tumor was detected, distribution as per occurrence is shown in Table 2. Fibrohistocytic tumors as per WHO classification of benign soft tissue tumors showed maximum numbers (Teno synovial GCT- 4 cases Figure 3), followed by lipomas (3 cases) and hemangiomas (3 cases). There were 9 cases of pseudo tumors of which ganglion were- 3 Figure 4, Epidermal cysts- 5 and organized hematoma-1 case.

DISCUSSION:

Limited literature is available for benign soft tissue swellings though common in occurrence.

As per Geer *et al* [8], the age of patients ranged from 16 to 88 years and male to female ratio was 1.3:1. In our study the ages varied from 1 to 81 years most common being (11-30) years of age. The Male to Female ratio was found to be 1.08.

In our study most common complaint was swelling in all patients and only 5 patients complained of pain, this is relating to study conducted by Lawrence *et al* [9] in over 5800 patients, the most common presenting symptom was a swelling, followed by pain due to swelling.

In our study Fibrohistiocytic tumors as per WHO classification of benign soft tissue tumors was most common (Tenosynovial GCT- 4 cases), followed by lipomas (3 cases) and hemangiomas (3 cases), this was in variation to various studies where most common benign tumor was Lipoma (50.27%) followed by vascular tumors in (20%) of the cases [2, 10]. There were 9 cases of pseudo tumors of which ganglion were-3, Epidermal cysts- 5 and organized hematoma-1 case. With classical clinical presentation soft tissue tumors have good clinicopathological correlation [11]. Similar findings were observed in our present study as well. Benign tumors were 16 and pseudotumor were 9 cases. Of 16 soft tissue benign tumor 15 had clinical and pathological co relation 93.75%. Myopericytoma did not show clinical co relation. Of 9 cases of pseudo tumors 8 had clinical and pathological co relation 88.88% and organised hematoma showed no clinical relation. [4].

Ultrasonography showed 68.75% relation in case of soft tissue benign swelling, 11 cases out of 16, whereas it showed 88.88 % co relation for 8 cases out of 9 in pseudotumor cases.

Benign soft-tissue tumors required only complete local excision for adequate treatment. Some non-metastasizing lesions hemangioma require wide excision similar to a sarcoma, otherwise local recurrence is very frequent [12].

CONCLUSION

USG has high specificity and predictive value to diagnose superficial soft tissue swellings. Histopathology has proven its efficacy in achieving at final diagnosis regarding any soft tissue swelling and its use along with clinical and radiological findings have helped them to decide the treatment modality and the prognosis.

The chief limitation of our study is that the sample size is small, and therefore, it would be prudent to conduct a larger study.

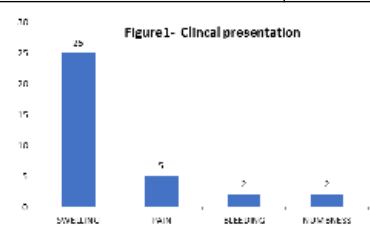
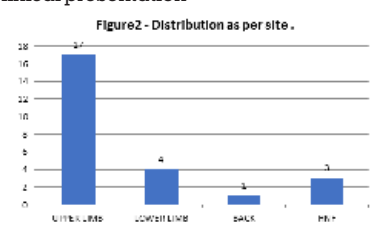
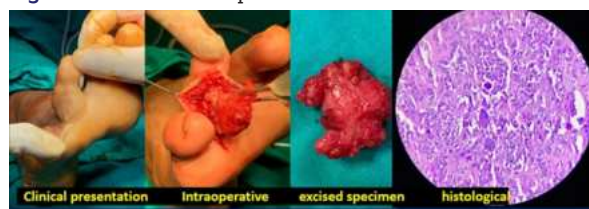
Table 1 – Age distribution

AGE	NO.
0-10 YRS	2
11-30YRS	11
31-50YRS	5
>50 YRS	7

Table2 – Type of swellings

TYPES OF SOFT TISSUE SWELLINGS	NO. OF PATIENTS
1] AS PER WHO CLASSIFICATION	
Adipocytic tumor- Lipoma	3
lipomatous tumor	1
Fibroblastic tumor-Fibroma	2
Fibrohistiocytic tumor-tenosynovial GCT	4
Nerve tumor- Schwannoma	1
Vascular tumor-Hemangioma	3
Pericytic tumor-Glomus	1
myopericytoma	1

2]Pseudotumors	
ganglion	3
epidermal cyst	5
organised hematoma	1

**Figure 1 – Clinical presentation****Figure2- Distribution as per site****Figure 3 – Case of recurrent GCT Right 4th toe****Figure4- Case of ganglion dorsum of right wrist****REFERENCES:**

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