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TO ASSESS THE ACCURACY OF TRU CUT NEEDLE BIOPSY IN CORRELATION WITH FINE NEEDLE ASPIRATION BIOPSY OF SOFT TISSUE TUMORS.

Dr. Sushma Shankar Ramteke — Assistant Professor, Department of General Surgery Lt. Lakhiram Agrawal Medical College, Raigarh 496001 chhattisgarh

Dr. Kamal Singh Kanwar* — Assistant Professor, Department of General Surgery Lt. BRKM Medical College, Jagdalpur 494001 chhatisgarh *Corresponding Author

Dr. Pradeep Kumar Pandey — Associate Professor, Department of General Surgery Lt. BRKM Medical College, Jagdalpur 494001 chhatisgarh

ABSTRACT **Introduction:**Biopsy is a prerequisite in the management of patient with soft tissue tumor. In the present study attempt has been made to find out usefulness and effectiveness of tru cut needle biopsy of soft tissue tumor and compared it with fine needle aspiration biopsy. The main objective of the study was to assess the accuracy of tru cut biopsy in correlation with fine needle aspiration biopsy of soft tissue tumor. **Method:** The study was conducted in Jagdalpur, the patients who either attended outpatient department or were admitted in the surgical wards as well as cancer wards of associated hospital of Medical college, for a period of one year. Total 43 patients were included in this study. **Result:** maximum number of the patients was between 31 – 40 years age group and minimum number of patients was in 81 –90 age group. Maximum number of males was in the age of 31 -40 years, and females were in the age of 21 -40 years. Benign lesions were diagnosed with100% accuracy but malignant lesions were diagnosed only 80.64% accurately. Over all accuracy for diagnosis of soft tissue tumor was 86.04%. All benign lesions were diagnosed accurately by fine needle aspiration biopsy. **Conclusion:** Tru cut biopsy is as accurate as conventional open biopsy for the diagnosis of soft tissue tumors. It is simpler to perform, less expensive and its use can help to prevent inappropriate initial management.

KEYWORDS : Tru cut needle biopsy; Fine needle aspiration biopsy, Soft tissue tumors.

INTRODUCTION:

Soft tissue sarcomas are exceedingly rare tumors with mesenchyme origin. They most commonly occur in the soft tissue extremities and present in pediatric patients more often than adults. Accurate diagnosis of soft tissue masses can be critical in initiating treatment of these tumors, which can carry significance morbidity and mortality.[1]

In closed biopsy only skin puncture or stab wound is required, this puncture or swab wound can readily be included enbloc with tumor if surgical procedure is to be definitive procedure. It is also possible to do a close biopsy outside of operating room setting as it causes no inconvenience and less risky to the patient than open biopsy.[2]

The application of aspiration biopsy and its effectiveness in the diagnosis and treatment of different type of tumors. The indication for the procedure could be any palpable tumor deep to the surface and covered by normal tissue, a tumor where surgical biopsy is difficult.[3]

For all patients suspected of having a musculoskeletal tumor by emphatically stating that the biopsy and the prebiopsy staging studies are crucial to treatment outcome of aggressive benign and malignant tumors. In staging studies, whenever practical should be done prior to biopsy, there are clear cut indications for needle trocar and open biopsies with advantages and disadvantages from each. Proper selection is important and requires thoughtful consideration and experience.

The placement of the incision and the technique of execution must be done with clear cut view of the subsequent incisions for potential definitive procedures.

In advertent contamination of hitherto uninvolved tissue by biopsy may subsequently requires amputation to achieve an adequate margin whereas limb salvage was practical prior to the biopsy. Stress concentrating biopsy defects in local bearing bone may initiate pathological fractures and defeat limb salvage management, particularly in situations amenable to radiation or chemotherapy. Optimum results of surgery are obtained by immediate operation in bloodless field.

Accuracy rate of 95% in the series of 136 primary soft tissue tumors. False positive fragments for cytologic diagnosis was 17%.[4]

In the series of 278 cases of soft tissue tumors , 68% was on the extremities and 32% over head neck trunk and retroperitoneum.soft tissue sarcoma occurs more commonly over extremities about two third of cases.[5]

Method: The study was conducted in Jagdalpur, the patients who either attended outpatient department or were admitted in the surgical wards as well as cancer wards of associated hospital of Medical college, Jagdalpur for a period of one year from2018 -2019 with a presenting complain of tumor. Total 43 patients were included in this study. All the cases were examined. Detailed clinical, local, systemic and general examination in each case and findings are recorded as per proforma enclosed.

History includes name, age, sex, occupation, socioeconomic status, date of admission, and address. Clinical diagnosis was made on the basis of history and physical findings.

Biopsy by tru cut needle: Biopsy site is chosen so that it can be excised as part of definitive procedure and by examining the tumor.

Fine needle aspiration biopsy: All the soft tissue tumors have been aspirated with the help of 22 gauge needle 0.6 mm of diameter.

Informed consent was taken from all the patients who were included in this study.

Inclusion criteria: All the patients from age group 11 to 81 years were included in this study.

Exclusion criteria: Patients not willing to participate in the study.

Statistical analysis: Data compiled in MS excel and descriptive data are presented in the form of frequencies and percentage.

RESULT:

Table 1: Age Groups of the Patient Studied.

Age groups	Number of Cases	Percentage
11 -20	05	11.62
21 -30	09	20.93
31 -40	11	25.58
41 -50	07	16.27
51 -60	05	11.27
61 -70	03	6.98

71 -80	02	4.65
81 -90	01	2.32
Total	43	100

In this study maximum number of the patients was between 31 – 40 years age group and minimum number of patients was in 81 –90 age group.

Table 2: Showing Sex Distribution of Cases of various Age groups

Age groups	Male		Female	
	No of Cases	Percentage	No of cases	Percentage
11 -20	4	9.3	1	2.32
21 -30	4	9.3	5	11.63
31 -40	6	13.96	5	11.63
41 -50	4	9.30	3	6.98
51 -60	4	9.30	1	2.32
61 -70	3	6.98	-	0.00
71 -80	-	0.00	2	4.65
81 -90	1	2.32	-	0.00
Total	26	60.46	17	39.53

In this study group maximum number of males was in the age of 31 -40 years, and females were in the age of 21 -40 years.

Table 3: Showing Accuracy of Soft tissue tumor

Definitive diagnosis	No of Cases	Positive FNAB		Negative FNAB	
		No of cases	Percentage	No of cases	Percentage
Malignant	31	25	80.64	6	19.36
Benign	12	12	100.00	0	0.00
Total	43	37	86.04	6	13.96

Benign lesions were diagnosed with100% accuracy but malignant lesions were diagnosed only 80.64% accurately. Over all accuracy for diagnosis of soft tissue tumor was 86.04%.

Table 4: Showing Accuracy for Benign lesions

Definitive diagnosis	No of Cases	Positive FNAB		Negative FNAB	
		No of cases	Percentage	No of cases	Percentage
Lipoma	6	6	100.00	0	0.00
Fibroma	3	3	100.00	0	0.00
Fibrolipoma	2	2	100.00	0	
Neurofibroma	1	1	100.00	0	0.00
Total	12	12	100.00	0	0.00

All benign lesions were diagnosed accurately by fine needle aspiration biopsy.

Table 5: Showing Accuracy of TRU CUT for soft tissue tumor.

Definitive diagnosis	No of Cases	Positive Tru cut		Negative Tru cut	
		No of cases	Percentage	No of cases	Percentage
Malignant lesion	31	30	96.77	1	3.23
Benign	12	12	100.00	0	0.00
Total	43	42	97.68	1	2.32

DISCUSSION:

Campora et al reported in their series of 16 cases of soft tissue tumor, age ranged from 7 months to 85 years and peak incidence was in 4th decade of life. 0- 20 years (12.5%) 21 -30 years (16.3%) 31 – 40 years (25%) 41 -60 years (25%) 61 -70 years (6.3%) and 71 -80 years (12.5%) and 81 -90 years (6.3%).[6]

Coindre et al reported in their series of 25 cases of soft tissue sarcomas that malignant fibrous histiocytoma accounted for 32 %, liposarcoma 8 %, rhabdomyosarcoma 8% fibro sarcoma 12%.[7]

Hashimoto et al reported in their series of 27 cases of soft tissue tumors, age ranged from 2 years to 81 years with median age 48 years and peak incidence in 4th decade of life. In their series 25, 18% cases reported in 31 -40 years of age group.[8]

Ball et al reported the accuracy rate of 98% in their series of 52 cases of soft tissue tumors. In this series they also reported that sarcoma was correctly diagnosed in 94% cases. False negative rate was 1.9% and there were no false positive results for malignant lesions.[9]

Webb reported that over all accuracy of 86% specific tumor type 78% with false negative rate of 12%. No false positive case reported in his series of 44 cases of primary soft tissue tumors. He also reported that in surgical practice it may be necessary to repeat the whole procedure in 10 -15% of cases.[10]

CONCLUSION:

All the patients having soft tissue tumor; clinically doubtful for malignancy, should have the benefit of Tru cut biopsy. In case of failed biopsy, it should be repeated, as often repeated efforts have yielded reliable information. On comparison with fine needle aspiration biopsy, Tru cut biopsy proved to be more accurate in these circumstances. We concluded that tru cut biopsy is a useful investigation in the management of soft tissue tumors.

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