VOLUME-8, ISSUE-12, DECEMBER-2019 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Pathology

USEFULNESS OF FINE NEEDLE ASPIRATION CYTOLOGY IN DIAGNOSIS OF SOFT TISSUE LESION AND DETERMINING THEIR PATTERN.

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ABSTRACT

Soft tissue tumors are heterogeneous group of tumors [1]. FNAC has developed as very useful technique for initial diagnosis of soft tissue mass [2]. It is very useful in distinguishing benign and malignant lesion[3]. FNAC has diagnostic value in evaluating neoplastic lesion with epithelial and reactive lesion. There is much less trauma and complication and early results[5]. FNAC is painless,safe and easy procedure[6]. It is sensitive and specific for diagnosis of primary, secondary and metastatic soft tissue lesion. FNAC is also valuable in diagnosing recurrent malignant lesion and for starting treatment[7]. This study was done for determining the effectiveness of FNAC for diagnosing the type of soft tissue lesion and comparing respective histopathological diagnosis.

MATERIAL AND METHOD :- This was a prospective study done between a period of one year starting from OCT 2018 to OCT 2019 in department of pathology of Rajendra Institute of Medical Sciences. Patients presenting with palpable soft tissue lump were included in this study. A total 256 cases were studied. Clinical history, radiological reports and other data were collected. FNAC was performed with 22G needle fitted with 10ml syringe. Usually material was obtained by single needle pass but for larger lesion two or three passes were made. Staining was done by Leishman Giemsa and pap stain. Histopathological study of excised tissue was done by hematoxylin and Eosin stain. Cellularity, cell pattern, type of cell group, nuclear pattern were noted.Finally cytological and histopathological reports were correlated.

KEYWORDS :

RESULTS:-

TABLE 1

Sl. No.	Sex	No. Of Cases	0-15	15-30	30-45	45-60	>70
1.	Male	144	19	17	33	45	30
2.	Female	112	13	16	30	27	26
3.	Total	256	32	33	63	72	56

Out of 256 patient examined 144(56.25%) were male and 112(43.75%) were female and the male female ratio was 1.28:1.00. Patient who was youngest was of 6 year of age. The oldest case was of 76 year of age.

TABLE 2 Incidence of benign lesion on cytology.

Benign	No. Of cases	Percentage
Lipoma	122	51.3%
Benign Mesenchymal tumor	31	13.02%
Benign fibrohistiocytic tumor	11	4.62%
Benign Nervesheath tumor	24	10.08%
Benign spindle cell tumor	50	21%
Total	238	100%

Incidence of Malignant tumor on cytology.

Malignant tumors	No. Of cases	Percentage
Malignant mesenchymal tumor	13	72.22%
Malignant nerve sheath tumor	05	27.78%
Total	18	100%

Out of 256 cases 238 were found benign and 18 were found malignant. Out of benign lesio most common was lipoma(53.31%) followed by benign mesenchymal tumor (13.02%). The predominant malignant tumor was malignant mesenchymal tumor accounting for 72.22% of total malignant cases followed by malignant nerve sheath tumor(27.78%).

TABLE 3 Cytomorphological Category

Type	Frequency	Percentage
Myxoid	28	10.93%
Round cell tumor	12	4.69%
Spindle cell tumor	70	27.34%
Pleomorphic tumor	13	5.08%
Epithelioid tumor	11	4.3%
Lipomatous	122	51.3%
Total	256	100%

Finding according to cytomor phological study is shown in table 3. Lipomatous character was commonest (51.3%) followed by spindle cell tumor for 27.34% of total cases accounting .

Cytology of Lipoma showed fragments of adipose tissue composed of fat cells with nucleus at periphery. FNAC of Liposarcoma showed Lipoblasts with nuclei having atypia and pleomorphism.

FNAC of benign spindle cell lesion showed dispersed and packed clusters of spindle cells with nucleus having fine chromatin. Cytology of benign fibrous histocytoma showed dispersed spindle cells along with solid cell clusters. Benign nerve sheath tumor showed spindle cell clusters with some having pointed ends. Scattered naked nuclei were also seen.

Cytology of malignant peripheral nerve sheath tumor showed ovoid to spindle shaped admixed with wavy cells.

Out of total 238 cases diagnosed benign by cytology one become malignant on histopathological examination. Out of total 18 cases which were malignant on FNAC. One case because benign after histopathological examination.

DISCUSSION

In our study benign cases were 92.9% and malignant cases were 7.1% where as in study by Beg et al 82.5% and cases were benign and 17.5% were malignant[8]. In another study by Soni et al more benign (95.3%) and less malignant (3.34%) cases were found[9].

In this study peak age group was 45-60years of age group, while in a stidy by Roy S et al benign tumors were relatively common in 3rd decade[10] . Beg el at[8] shown in their study that lipoma was most common benign soft tissue tumor which is similar to our findings. In contrast to present study Nagira et al reported that most common benign soft tissue tumor was spindle cell(31.5%) followed by lipomatous tumor(14.6%)[11].

CONCLUSION

Thus, we conclude that FNAC is a useful tool for detection of benign and malignant soft tissue tumors. Cytomorphological study of tumors can be done to reach a specific diagnosis. It is also sensitive, easy to perform, cost effective and preliminary diagnostic tool.

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