DIAGNOSTIC EFFICACY OF FNAC AND HISTOPATHOLOGY IN PATIENTS OF CERVICAL LYMPHADENOPATHY IN ADULTS.

Naeem Kareem Bhatti[1], Sajjad Hussain Qureshi [2], Shahnawaz Lighari [3], Memona Khushk[4], Syed Kashif Ali Shah[5], Shahida Baloch[6].

ABSTRACT

INTRODUCTION: The diagnosis of lymphadenopathies has remained challenging for healthcare takers. **OBJECTIVE:** Multiple methods are applied to diagnose it. Initially, Fine Needle Aspiration Cytology (FNAC) is done to see the type of cells either benign or malignant. It is the 1st step towards the diagnosis. It is easily available, simple and cost effective. It is OPD procedure. Patients suffer minimal trauma. For histopathology, excisional biopsy is done through surgical procedures. After getting diagnosis by FNAC, the need of excisional biopsy is less. FNAC has accurate diagnosis in cases of tuberculosis lymphadenitis, infections, reactive hyperplasia and neoplastic lesions. **METHODS:** This is a cross sectional study done in Surgical Unit II at PMC Hospital Nawabshah 15th Feb 2019 to 15th Feb 2021. All the patients were admitted through OPD and emergency department of PMC Hospital Nawabshah. All patients came with complain of neck swellings in cervical regions. Clinical History was taken. Local examination of swellings was done. All routine biochemical investigations were done. In some patients, ESR was also done. Fine Needle Aspiration Cytology (FNAC) was obtained on slides. Results were collected either benign or malignant. Those cases in which FNAC proved to be inconclusive, they were sent for excisional biopsy and then for histopathology. **RESULTS:** Total 80 patients were selected for the study. Females were 58 (72%) and males were 22 (28%). Among benign conditions, reactive hyperplasia was found to be in 30 (45%) patients, necrotizing lymphadenitis in 10 (15%) and granulomatous lymphadenitis in 22 (33%) patients. 5 (7%) cases were negative in benign conditions. Of malignant conditions, the results of FNAC were not satisfactory so the excisional biopsy of all malignant conditions were done and lymphomas were diagnosed on Histopathology. 6 (8.9%) was Hodgkin Lymphoma (NHL) and 7 (12.5%) Non Hodgkin Lymphoma (HL). **CONCLUSION:** It is concluded that FNAC has the great accuracy in diagnosis of benign conditions whereas in cases of Lymphomas, the diagnostic accuracy of Histopathology supersedes it.

KEYWORDS: lymphadenopathy, Excision biopsy, Benign, Malignant, Histopathology.

1. Assistant Professor Surgery (PUMHSW).
2. Assistant Professor Surgery (PUMHSW).
3. Assistant Professor Surgery (PUMHSW).
4. Consultant General Surgeon.
5. Associate Professor Surgery (PUMHSW).
6. Senior Registrar Surgery (PUMHSW).

How to cite this article: Bhatti NK[1], Qureshi SH[2], Lighari S[3], Khushk M[4], Shah SKA[5], Baloch S[6]. **DIAGNOSTIC EFFICACY OF FNAC AND HISTOPATHOLOGY IN PATIENTS OF CERVICAL LYMPHADENOPATHY IN ADULTS.** *JPUMHS; 2021:11:03, 96-99.* http://doi.org/10.46536/jpumhs/2021/11.03.324

For Correspondence: Dr Naeem Kareem Bhatti, Assistant Professor Surgery (PUMHSW).
Email: drnkbsr@gmail.com

Received Jan 4 2021, Accepted On 15 March 2021, Published On 31 March 2021

INTRODUCTION

Now days, lymphadenopathy is commonly seen in surgical practice being faced by general surgeons and ENT specialists. These conditions could be inflammatory as well as neoplastic. The common etiology could be viral and bacterial infections. It can be caused by autoimmune diseases and malignancy also. Cervical lymphadenopathy are common of all and are challenging in diagnosis in all age groups. Generalized lymphadenopathies are due to Lymphomas.[1,2]

The diagnosis of lymphadenopathies has remained challenging for healthcare takers. Multiple methods are applied to diagnose it. Initially, Fine Needle Aspiration Cytology (FNAC) is done to see the type of cells either benign or malignant. It is the 1st step towards the diagnosis. It is easily available, simple and cost effective. It is OPD procedure. Patients suffer minimal trauma. For histopathology, excisional biopsy is done through surgical procedures. After getting diagnosis by FNAC, the need of excisional

biopsy is less. FNAC has accurate diagnosis in cases of tuberculosis lymphadenitis, infections, reactive hyperplasia and neoplastic lesions.[3,4]

To diagnose metastatic tumor on cytology is very significant and highly reliable on FNAC. This helps greatly to search for the primary lesion. It becomes helpful especially in cases of Occult Carcinoma. In many cases, primary tumor is clinically diagnosed and FNAC is used as follow up of these patients.[5,6]

Lymphomas either Hodgkins or non Hodgkins are commonly diagnosed by excisional biopsies. FNAC can also be done to stage the primary, residual and recurrent lymphoid malignancies. It can also be done in deep seated lymph nodes where excisional biopsies cannot be performed and patients are unfit for surgeries.[7] FNAC diagnosed Lymphomas mostly require excisional biopsy. Currently, World Health Organization (WHO) has introduced classification of Lymphomas that is based on not only on architecture but also on cellular morphology, phenotype, and genotype of malignant lymphoid cells and all these are assessed on cytology also.[8,9]

The rationale of our study is to compare the diagnostic accuracy of FNAC and Histopathology so that the Best method to diagnose the Lymphadenopathies be used for the betterment of patients and they may be provided safe and cost effective treatment.

MATERIAL AND METHODS

This is a cross sectional comparative study conducted in the department of Surgery PMCH Nawabshah. The duration of study was from 15th Feb 2019 to 15th Feb 2021. After getting ethical committee approval, all the patients were admitted through OPD and emergency department of PMC Hospital nawabshah. . All patients came with complain of neck swellings in cervical regions. Clinical History was taken. History of fever and pain was taken. Associated symptoms were also asked such as weight loss. Duration and number of the swellings was also noted. Local examination of swellings was done. Examination of submandibualr, preauricular, occipital, axillary, supraclavicular and inguinallymph nodes was also done. , All routine biochemical investigations were done. In some patients, ESR was also done. Fine Needle Aspiration Cytology (FNAC) was obtained on slides. Results were collected either benign or malignant. Those cases in which FNAC proved to be inconclusive, they were sent for excisional biopsy and then for histopathology.

RESULTS

Total 80 patients were selected for the study. Females were 58 (72%) and males were 22 (28%)

FNAC OUTCOME OF CYTOLOGY

The cytological diagnosis was found to be benign in 67 (84%) cases and malignant in 13 (16%) cases.

Among benign conditions, reactive hyperplasia was found to be in 30 (45%) patients, necrotizing lymphadenitis in 10 (15%) and granulomatous lymphadenitis in 22 (33%) patients. 5 (7%) cases were negative in benign conditions. Of malignant conditions, the results of FNAC were not satisfactory so the excisional biopsy of all malignant conditions were done and lymphomas were diagnosed on Histopthology. 6 (8.9%) was Hodgkin Lymphoma (NHL) and 7 (12.5%) Non Hodgkin Lymphoma (HL).

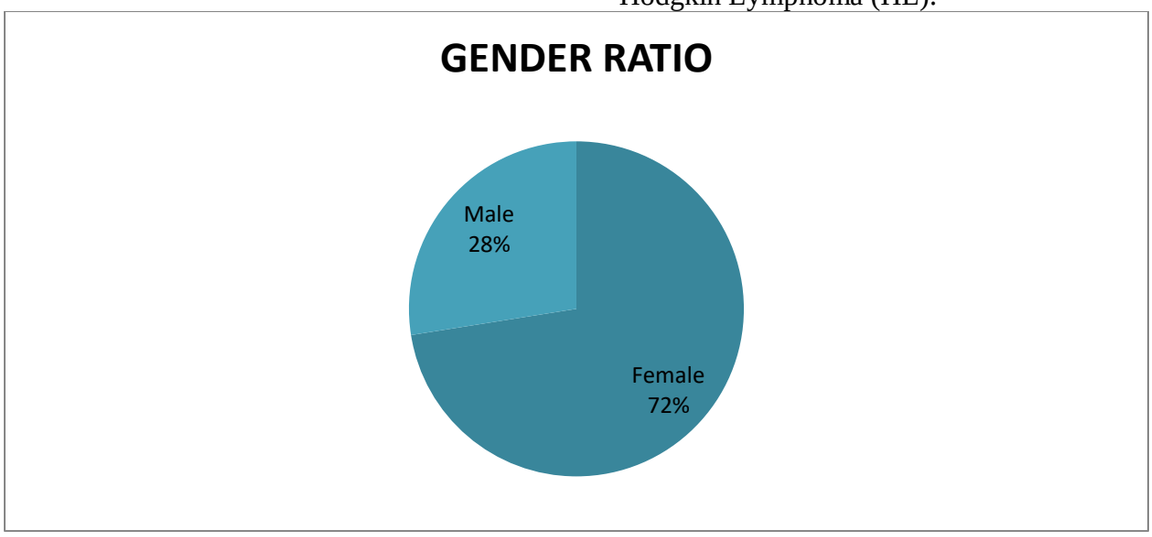
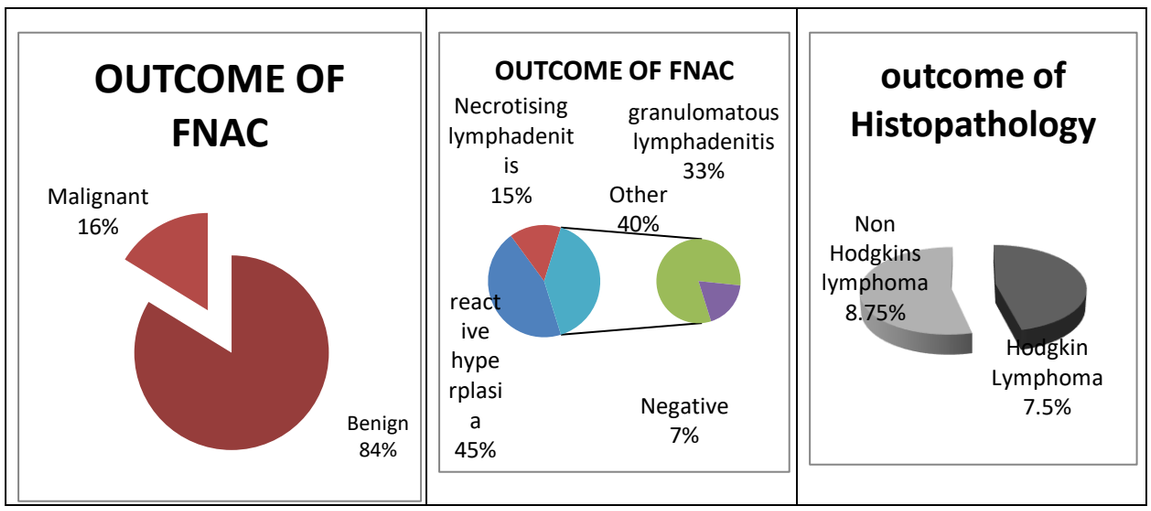


TABLE 1 AGE DISTRIBUTION			
S NO	**AGE OF PATIENTS**	**NO OF PATIENTS**	PERCENTAGE
1	**15-20**	**17**	21.2%
2	**21-30**	**27**	33.5%
3	**31-35**	**18**	22.5%
4	**36-45**	**18**	22.5%
Total	**15-45**	**n=80**	100%

Table 2: SITE OF LYMPH NODES			
S NO	SITE OF LYMPH NODES	NO OF PATIENTS	PERCNTAGE
1	Right Upper deep cervical	22	27.5%
2	Right Lower deep cervical	12	15%
3	Mid cervical	10	12.5%
4	Left upper deep cervical	20	25%
5	Left lower deep cervical	10	12.5%
6	Bilateral	6	7.5%
Total		n=80	92.5%



DISCUSSION

It is an accepted fact that cervical lymphadenopathy is not a disease but is clinical feature. Its etiology can be varied from inflammatory to neoplastic. The lymph nodes of axilla, neck and inguinal region can be palpated. In children, lymph node of 1cm may be palpable that could be due to reactive hyperplasia and infections. In old age patients, lymphadenopathy could be due to malignancies.[10]

In one study conducted at National Cancer Unit Cairo University, 19.7% FNAC smears were resulted as malignant out of 157. In our study, malignancy was seen only in 16% patients. In a study, the site of lymph nodes commonly involved was upper deep cervical that comprised of 37.6% and 14.6% deep cervical lymph nodes. In our study, right upper deep cervical lymph nodes involvement was common and it was 27.5%. Right lower deep cervical involvement was 15% and mid cervical was 12.5%. Left upper deep cervical was 25%. Left lower cervical was 12.5% and bilateral involvement was 7.5%.[11,12]

In one study, there was a difference in gender distribution. 53.5% females were involved and 46% males whereas in our study, females ratio was 72% and male affected were 28%. In one study, reactive hyperplasia was seen in 12.7%. Necrotizing lymphadenitis was seen in 11.5%. Only 6.4% were noted as suffering from granulomatous lymphadenitis. In our study, reactive hyperplasia was seen in 45% and 15% suffered from necrotizing lymphadenitis. Only 33% patients suffered from granulomatous lymphadenitis. In a study, malignancy proved on FNAC was 18.7% but in another study, malignancy proved on FNAC was 7% but on Histopathology, it was 60%. In our study, malignancy proved on Histopathology was 16.2% and benign conditions proved on FNAC were 92.5%. [13,14]

CONCLUSION

It is concluded that FNAC has the great accuracy in diagnosis of benign conditions whereas in cases of Lymphomas, the diagnostic accuracy of Histopathology supersedes it.

ETHICS APPROVAL: The ERC gave ethical review approval

CONSENT TO PARTICIPATE: written and verbal consent was taken from subjects and next of kin

FUNDING: The work was not financially supported by any organization. The entire expense was taken by the authors

ACKNOWLEDGEMENTS: We would like to thank the all contributors and staff and other persons for providing useful information.

AUTHORS' CONTRIBUTIONS: All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated in the work to take public responsibility of this manuscript. All authors read and approved the final manuscript.

CONFLICT OF INTEREST: No competing interest declared.

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