

ORIGINAL RESEARCH

Role of FNAC For Cytological Evaluation of Peripheral Palpable Lesions in People Living with HIV/AIDS

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ABSTRACT

Introduction: AIDS, the acquired immuno deficiency syndrome (sometimes called “Slim disease”) is a fatal illness caused by a retro-virus known as the Human Immuno-deficiency Virus (HIV) which breaks down the body’s immune system, leaving the victim vulnerable to a host of life-threatening opportunistic infections, neurological disorders or unusual malignancies.

Aim: To evaluate the role of FNAC as a cytological investigative tool in the diagnosis of various superficial and palpable lesions in people living with HIV/AIDS.

Methods: This was a randomized and double-blind study conducted on 57 patients suffering for HIV/AIDS who presented with superficial and palpable lesions and subjected to fine needle aspiration using 22 or 23 gauge needle with all aseptic universal precautions to the Dept. of Pathology, Govt. Medical College Kota (Rajasthan) and associated group of hospitals between August 2015 to January 2018.

Results: Male to female ratio was 3.3:1. Cervical and Axillary group of lymph nodes were the predominant peripheral palpable lesions accounting for 59.66% cases. Commonest cytodiagnosis were Tubercular lymphadenitis in 43.86% cases followed by Reactive lymphadenitis in 21.05% cases.

Conclusion: FNAC is a reliable, safe and cost effective for the diagnosis of peripheral palpable lesions in HIV infected individuals.

Keywords: HIV, FNAC.

INTRODUCTION

AIDS, the acquired immuno deficiency syndrome (sometimes called “Slim disease”) is a fatal illness caused by a retro-virus known as the Human Immuno-deficiency Virus (HIV) which breaks down the body’s immune system, leaving the victim vulnerable to a host of life-threatening opportunistic infections, neurological disorders or unusual malignancies.¹

The epidemic of HIV infection and AIDS has provided the clinician with new challenges for integrating clinical and laboratory data to effect optimal patient management. Clinical examination and radiological investigations on their own have diagnostic limitations. Incision or excision biopsy for histological evaluation is time consuming and expensive.

FNAC is a simple, inexpensive, rapid and minimally invasive investigative procedure which can reduce surgical excisions and provide definite guidelines about further management. FNAC of superficial and palpable lesions is a valuable investigative modality especially in HIV patients with peripheral palpable lesions. FNAC can serve as alternative method and may be practiced for the diagnosis of opportunist infection in HIV/AIDS, e.g.: tuberculosis, histoplasmosis, toxoplasmosis and malignant condition such as Kaposi’s sarcoma and

lymphoma.² FNAC has become the primary investigative procedure for mass lesions on HIV positive patients, particularly in the assessment of superficial and palpable lesions.³ The procedure is rapid, easily performed and in many cases obviates excision while guiding subsequent therapy or observation. This study was performed to evaluate the role of FNAC as a cytological investigative tool in the diagnosis of various superficial and palpable lesions in people leaving with HIV/AIDS.

AIM

To evaluate the role of FNAC as a cytological investigative tool in the diagnosis of various superficial and palpable lesions in people leaving with HIV/AIDS.

METHOD

The present study was conducted on 57 patients suffering for HIV/AIDS who presented with superficial and palpable lesions to the Department of Pathology, Govt. Medical College Kota (Rajasthan) and associated group of hospitals between August 2015 to January 2018. For this study, permission from NACO has been taken. This study was designed in form of a randomized and double-blind study. All the patients in the study were subjected to a thorough detailed case history, clinical examination and all relevant investigations. A written informed consent was taken from all patients included in the study. HIV positive patients with superficial and palpable lesions were subjected to fine needle aspiration using 22 or 23 gauge needle with all aseptic universal precautions. The procedure was performed without local anaesthesia because the procedure was minimally painful. In patients with more than one superficial and palpable lesion, the largest lesion was subjected to FNAC. The smears obtained were routinely fixed with ethyl alcohol or air dried according to type of stain to be used. Smears were then stained by Giemsa stain. Special stains like Ziehl-Nielsen stain were done in every case. The data obtained from all these patients was then critically analysed.

RESULTS

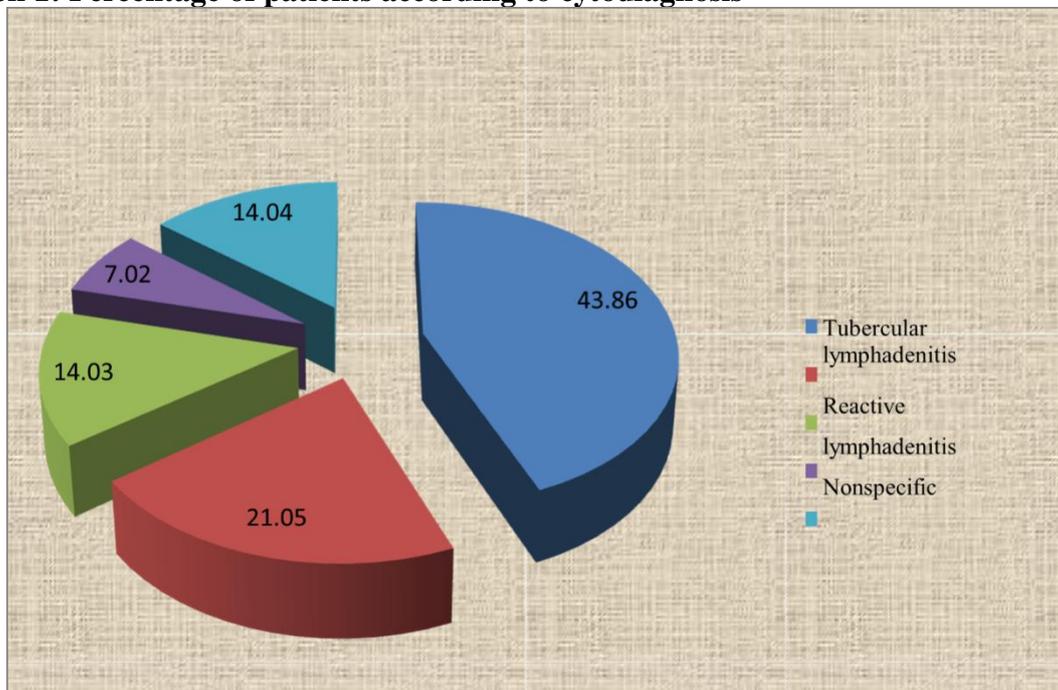
Total 57 HIV positive patients were included in this study, out of which 44 (77.20%) were males and 13 (22.8%) were females. Number of cases at the extremes of age were very less. Majority of patients were between 31 to 40 years of age. Male to female ratio was 3.38:1. From the above table it is evident that the most common site of HIV lymphadenopathy predominantly involves Cervical group of lymph nodes 23 cases (40.36%) followed by Axillary 11 (19.30%) and Submandibular 6(10.53%), Supraclavicular 5(8.77%). Out of the 57 cases in this study, commonest cytodagnosis observed was Tubercular lymphadenitis- 25 cases (43.86%), followed by Reactive lymphadenitis- 12 cases(21.05%).

Table 1: Age and Gender wise distribution of study population

Age Gr.	Males	Females	Total	Percentage
0-10 yrs	1	1	2	3.51
11-20 yrs	3	1	4	7.02
21-30 yrs	9	5	14	24.56
31-40 yrs	19	6	25	43.85
41-50 yrs	6	0	6	10.53
>50 yrs	6	0	6	10.53
Total	44	13	57	

Table 2: Site of HIV lymphadenopathy

Site involved	No. of patients	Percentage
Cervical LN	23	40.36
Axillary LN	11	19.3
Submandibular LN	6	10.53
Supraclavicular LN	5	8.77
Inguinal LN	2	3.51
Submental LN	2	3.51
Lump back	1	1.75
Breast lump	3	5.26
Gluteal lump	2	3.51
Occipital mass	1	1.75
Arm lump	1	1.75
Total	57	100

Graph 1: Percentage of patients according to cytodiagnosis

DISCUSSION

In the present study, FNAC was performed on 57 HIV positive patients, who presented with peripheral and palpable lesions. Out of the 57 patients, 44 (77.20%) were males and 13 (22.80%) were females with male to female ratio of 3.38:1. Out of the 57 patients 2 (3.51%) patients were between 0-10 years. 4 (7.02%) were between 11-20 years. 14 (24.56%) were between 21-30 years. 25 (43.85%) patients were in between 31-40 years. 6 (10.53%) patients were in between 41-50 years and 6 (10.53%) patients were aged more than 50 years. From the above findings, it is observed that majority of patients in the present study were affected in 31-40 years age group. Minimum number of cases were seen at the extremes of age were very less in the present study. Findings of our study correlate well with those of Amit agravat et al (2012)³ and Deshmukh et al (2013)⁴.

In the study by Amit agravat et al (2012)³ 68.33% patients were males and 31.66% were females. Male to female ratio was 2.16: 1. Maximum number of cases 122 (40.66%) were seen in the age group 31-40 years followed by 95 (31.66%) in 21-30 years. The incidence of

lymphadenopathy decreased with advancing age after 50 years in their study.

In the study by Deshmukh et al (2013)⁴ 63.6% were males and 36.3% were females. This shows that there was predominance of males over the females. Male to female ratio was 1.7:1. Also it is evident that majority of male patients were between 31 to 40 years of age, whereas majority of females were in between 21 to 30 years of age.

All the studies had indicated a predominant affection of males by HIV infection. This may be because of the fact that males in our society are more exposed to outside world and therefore have more risk of coming in contact with HIV infected environment.

Table 3: Comparative distribution of HIV positive patients according to site involved.

Site	Amit Agravat et al (2012) ³	Deshmukh AT et al (2013) ⁴	Ratan K et al (2014) ⁶	Present study
Cervical LN	81%	81.80%	75%	40.36%
Supraclavicular LN	6.3%	9.00%	6.6%	8.77%
Axillary&Inguinal LN	6.6%	6.80%	5.7%	22.81%
Other LN	6.6%	2.20%	Not mentioned	14.04%
Extra lymphoid sites	Not mentioned	Not mentioned	Not mentioned	14.02%

From the above table it is observed by all the authors that the most common site of peripheral and palpable lesions in HIV positive patients is the cervical group of lymph nodes followed by Supraclavicular group of lymph nodes. In the present study also the most common site was cervical group of lymph nodes. However, in our study the second most common site of involvement was axillary group of lymph nodes.

In the present study also the commonest cytodiagnosis found was tuberculous lymphadenitis 25 cases (43.86%), followed by reactive lymphadenitis 13 cases (21.05%).

In studies conducted by Kumarguru et al (2005)⁵, Ratan K et al (2014)⁶ and Saikia et al (2001)⁷ most common cytology finding was reactive lymphadenitis while in study conducted by Deshmukh et al (2013)⁴, Parikh et al (2011)⁸ and Amit agravat et al (2012)³ tubercular lymphadenitis was the most common finding.

In the study conducted by Amit agravat et al (2012)³, Out of 300 cases of lymph node aspiration majority were tuberculous lymphadenitis 114 cases (38%) followed by Chronic nonspecific lymphadenitis 89 cases (29.33%), Reactive lymphadenitis 58 cases(19.33%).

Deshmukh et al (2013)⁴, observed that Mycobacterial infection was the most common lesion occurring in 20 cases (45.4%), followed by reactive lymphadenitis 13 cases (29.5%).

In the study conducted by Kumarguru et al (2005)⁵ reactive lymphadenitis was most common lesion constituting 107 cases (46.32%), followed by tuberculous lymphadenitis 96(41.55%), non-specific chronic granulomatous lymphadenitis was observed in 17 cases(7.30%).

Ratan K et al (2014)⁶ observed that NSRL (42.1%) was the most common lesion followed by tubercular lymphadenitis (38.84%). Granulomatous lymphadenitis (9.92%), acute suppurative lymphadenitis (6.61%) and one case (0.83%) each of NHL, metastatic lymph node and fungal (*P. marneffei*) lymphadenitis were the other cytological diagnoses.

Saikia et al (2001)⁷ performed their study in 28 patients. The most common FNAB diagnosis was reactive lymphoid hyperplasia (10), followed by tuberculosis (8). There were three cases diagnosed as fungal infection (two, Cryptococcus; one, histoplasmosis).

In the study of Parikh et al (2011)⁸, total 40 PLHA were included. Tuberculous lymphadenopathy (40.54 %) was the most common lesion encountered in their study. A total of 10 cases (27.03 %) showed acute suppurative lymphadenitis.

Table 4: Comparative incidences of various pathological conditions in HIV positive patients

Cytodiagnosis	Kumarguru et al (2005) ⁵	Amit Agravat et al (2012) ³	Deshmukh AT et al (2013) ⁴	Ratan K et al (2014) ⁶	Present study
Tubercular lymphadenitis	41.55%	38%	45.4%	38.84%	43.86%
Reactive lymphadenitis	46.32%	19.3%	29.5%	42.1%	21.05%
Nonspecific inflammatory	7.30%	32%	18.1%	9.92%	14.03%
Acute suppurative	1.29%	1.3%	6.81%	6.61%	7.02
Others	3.46%	10%	Not mentioned	5.2%	14.04%

Tuberculous infection and reactive lymphadenitis were the two most common findings in almost all the studies.

FNAC is relatively inexpensive and valuable tool for identification of opportunistic infections, neoplastic lesions and non-neoplastic lesions in HIV infected individuals. It may spare the patients need for lymph node excision and enable immediate treatment of specific infections. This procedure is easily repeatable and can be used for follow up during and after treatment. Tuberculosis is a major opportunistic infection which could be detected in both asymptomatic and symptomatic individuals and even in patients with the tiny lymph nodes. Lymph node cytology is useful for segregating lymphadenopathy cases that need further evaluation. Thus, FNAC is a primary, easy and effective diagnostic modality for HIV lymphadenopathy patients.

CONCLUSION

It helps in identifying majority of the reactive and neoplastic lesions as well as opportunistic infections and guides the clinician in subsequent management of the patient. Based on the present study it is observed that FNAC is a reliable, safe and cost effective for the diagnosis of peripheral palpable lesions in HIV infected individuals.

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