DIAGNOSIS OF HODGKIN’S LYMPHOMA ON FNAC - A CASE REPORT

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ABSTRACT

BACKGROUND
Hodgkin’s disease primarily involves lymphoreticular system with characteristic tumour cells and infiltration by reactive lymphocytes, eosinophils and plasma cells. FNAC is safe and inexpensive, outdoor patient procedure with a high diagnostic yield, accuracy, sensitivity and specificity. It is commonly believed that cytodiagnosis of Hodgkin’s Lymphoma (HL) is much easier than that of non-Hodgkin lymphoma (NHL). Immunocytochemical and immunohistochemical studies showed good correlation with histological diagnosis of HL. It is suggested that proper interpretation of cytologic features, together with use of immunocytochemical parameters can help in reducing the margin of error in cytodiagnosis of HL.

KEYWORDS
Fine Needle Aspiration Cytology (FNAC), Hodgkin’s Lymphoma (HL), Reed Sternberg Cell (R-S Cell).


BACKGROUND
Hodgkin’s lymphoma was first described by Thomas Hodgkin in 1832. Many studies have been done concerning its etiology, classification, treatment and prognosis. Hodgkin’s lymphoma is a malignant lymphoproliferative disorder with characteristic features regarding epidemiology and histopathology. Although, much more progress had been made in classification, treatment and prognosis of this disease; the aetiology and the origin of the tumour cell are in much controversy. With respect to aetiology, association with Epstein-Barr virus has been suggested. FNACs said to have a higher diagnostic accuracy in Hodgkin’s lymphoma (91.8%) as compared to Non-Hodgkin’s lymphoma. Both of these malignancies may cause similar symptoms, but the conditions themselves are different. The type of abnormal cells identified in the sample determines whether a lymphoma is classified as Hodgkin’s disease or non-Hodgkin’s lymphoma. Patient infected with the Epstein-Barr Virus (EBV) or the Human Immunodeficiency Virus (HIV) or with weak immune system, may have high risk of developing Hodgkin lymphoma. However, lymphoma is not contagious.

CASE REPORT
The patient was a 27-year malnourished male who presented with bilateral cervical lymphadenopathy since 6 months. He took treatment for it from a local doctor and applied some ointment on it, after which he developed some sinuses in cervical region. He referred to our hospital. His laboratory tests were within normal limits. Serological tests were negative.

FNAC of cervical lymph nodes was done. Cytologically scattered typical RS like cells, popcorn and mononuclear cells with prominent eosinophilic nucleoli are noted. Few scattered histiocytic granulomas are also seen; 20% AFB was negative. So on cytology possibility of Hodgkin’s Lymphoma was given and biopsy was advised.

Histopathologically, the diagnosis of Hodgkin’s lymphoma, nodular sclerosis is given and lymphoma markers were advised, but the patient could not afford. So it was not done.
DISCUSSION

FNAC is regarded as the gold standard initial investigation in the evaluation of lymph nodes for the diagnosis of lymphomas. The technique is safe, simple and quick with a low complication rate. Several other tests, such as high resolution ultrasonography and FNA biopsy have been used for evaluation of lymphadenopathy before proceeding to surgery. Studies have demonstrated that among all these diagnostic modalities FNAC is the most accurate, cost effective screening test for rapid diagnosis of lymphadenopathy. In conjunction with immunophenotyping and molecular studies, it has gained acceptance in many centres as a diagnostic tool.\(^4\)

Hodgkin’s lymphoma is more common in children than adults.\(^2\) In industrialised countries, this disease shows a bimodal age distribution with peaks in young adults and in elderly with a predominance of nodular sclerosis subtype. However, in the developing countries, this disease is seen more frequently in children with a predominance of mixed cellularity and lymphocyte depletion subtypes.\(^2\)

The cornerstone of cytodiagnosis of Hodgkin’s Lymphoma is the finding of classic Reed-Sternberg/Hodgkin cells in an appropriate polymorphous cellular background.\(^5\) The wide spectrum of cytological features seen in Hodgkin’s lymphoma reflects not only the histological diversity of the disease, but also overlaps considerably with other reactive and malignant lesions leading to problems in the diagnosis.\(^6\)

Furthermore, when present R-S cell need to be differentiated from immunoblasts, which typically are not only smaller than R-S cells, but also lack prominent nucleoli and may have plasmacytoid appearance.\(^6\)

Another noteworthy problem is that of separating HL from Peripheral T-Cell Lymphoma (PTCL) that may contain cells, which are known to be notorious for mimicking R-S cells. Although, this problem has been well addressed in a study by Mathur et al and criteria have been proposed to delineate the two, but practical difficulties do persist.\(^7\)

Another confounding factor is the presence of an exuberant granulomatous response in association with HL, which may distract the observer from the underlying pathology.\(^7,8\) In our case also, scattered histiocytic granulomas are noted. Meticulous search for atypical cells that stand out in a reactive background along with clinical suspicion may resolve the issue in these cases up to some extent.

In Hodgkin’s disease various immunological defects, especially in cell-mediated immunity cause a disturbance of delayed hypersensitivity, which leads to infections by mycobacterium, histoplasma, cryptococcus, herpes or toxoplasma.\(^6,7\)

In Hodgkin’s disease, both the histological type and the clinical stages are associated with prognosis.\(^8\)

CONCLUSION

FNA is a very useful tool in the initial diagnosis of HL, but one has to always be aware of its pitfalls. Classic R-S cells are not always abundant. Instead, the presence of atypical mononuclear cells and granuloma together should raise a high index of suspicion for further evaluation. A careful search for these features in a reactive background must be followed. FNA identify the patients who need a biopsy, especially in cases with strong clinical suspicion and hence is a good screening tool. Presence of atypical mononuclear cells in cytology should
prompt a cautious search as classic RS cells may not be a prominent feature in aspirates of HL. Focal involvement and abundance of reactive lymphoid cells may lead to false negative diagnoses. Hypocellularity of aspirates disproportionate to lymph node size warrant caution. Overall, FNA is useful in the diagnosis of HL, provided one is aware of the pitfalls. It is particularly valuable in screening cases that will require biopsy.

REFERENCES