**Fine needle aspiration cytology of dermatopathic lymphadenitis in an asymptomatic female: A case report**

**ABSTRACT**
Dermatopathic lymphadenopathy usually presents as enlarged superficial lymph nodes, most often involving the axillary or inguinal regions. Most patients have a chronic dermatopathy that precedes the development of dermatopathic lymphadenopathy. This condition can be confused with lymphoma in adults. There are very few case reports on cytological features of this disease in literature. We describe a case of dermatopathic lymphadenopathy in a 50-year-old female without any skin disease.

**Key words:** Aspiration cytology; dendritic cell; lymphadenopathy

**Introduction**

Dermatopathic lymphadenitis (DLN) is a well-described histopathological entity characterized by the expansion of the subcortical zone by dendritic histocytoid cells due to barrier disruption of dependent skin.[1] DLN was first coined by Hurwitt et al.[2] DLN is often seen in patients with skin diseases exfoliative or eczematoid inflammatory erythrodermas, especially mycosis fungoides and Sézary syndrome, but has rarely been described in the absence of clinical skin disease.[3] DLN has been described in association with human immunodeficiency virus infection probably due to migration of dendritic cells to lymph node from the epidermis.[4] Even though a benign condition differentiating it from mycosis fungoides and malignant lymphoma can be difficult.[5]

The relationship between lymph node hyperplasia and cutaneous disease was first described by Wise et al. although it was later established by Pantrier and Woringer as lipomelanotic reticulosis.[6,7]

Massive lymphadenopathy may not always be due to infection or malignancy, but can be due to a reactive condition as DLN. We describe cytomorphological features of DLN in an asymptomatic patient who was referred to us to rule out lymphoma.

**Case Report**

A 52-year-old female presented with a history of painless neck swelling since 6 months. On examination, she had generalized lymphadenopathy with enlarged cervical, axillary, and inguinal group of lymph nodes [Figure 1a]. There was no organomegaly. Hematological investigations revealed hemoglobin 12.8 g%, total leukocyte count 13,000 cells/cmm, differential count of 74% neutrophils, 20% lymphocytes, and

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6% eosinophils. Erythrocyte sedimentation rate (ESR) was 7 mm fall/1st hour. Renal parameter and lipid profile were within normal limits. She did not have any obvious skin lesions.

Fine needle aspiration cytology (FNAC) of cervical group of lymph nodes showed a polymorphous population of lymphocytes in various stages of maturation along with pigment-laden macrophages, immunoblasts, dendritic cells, and monocytoid blast cells with cleaved nucleus and vacuolated cytoplasm in the background of eosinophils and plasma cells [Figures 1b, 2a and b]. Cytological diagnosis of DLN was made.

Discussion

In DLN, the axillary and inguinal regions are most commonly affected, although it can occasionally present in the head and neck as in our case, though, axillary lymph node enlargement was more than the cervical lymph node.[1] A prominent immunoblastic and plasmacellular reaction is found in several conditions.

In viral lymphadenitis, particularly in infectious mononucleosis, immunoblasts, and plasmacytoid cells, mature plasma cells and atypical lymphocytes can be numerous but they lack eosinophils.[8] Hodgkin’s disease (HD) is a malignancy of lymphoid tissue characterized by the Reed-Sternberg (R-S) cell or a variant of R-S cell. Usually a background of reactive lymphoid cells, eosinophils, plasma cells, and histiocytes will be present.

In dermatopathic lymphadenopathy numerous noncohesive, pale histiocyte-like cells are present. Some macrophages contain pigment — either hemosiderin or melanin. These have smaller and more consistently oval-nonfolded-nuclei and have a better defined cytoplasm. Some eosinophils are usually present. The background will be predominantly of small lymphocytes that may appear slightly atypical with small pale, central nucleoli, and blast forms are less common.[9] In our present case, numerous noncohesive, pale histiocytes with few containing hemosiderin pigment were seen along with eosinophils, plasmacytoid cells, and atypical lymphocytes. However, Reed-Sternberg cell was not seen. Iyer et al. in their cytomorphological study of 13 cases, concluded that pigment-laden macrophages, large histiocytic clusters, characteristic histiocytes with convoluted nuclei, and pseudonucleoli, absence of or very few tingible body macrophages aid in the diagnosis of DLN.[10] For further confirmation, S-100 and Fascin antibodies can be used to demonstrate interdigitating dendritic cell positivity on immunohistochemistry.[11] The specificity and overall diagnostic accuracy for lymph node FNAC in adult population is about 98-100%. Especially in benign condition, FNAC offers a minimally invasive modality to guide the clinician in treating the patient appropriately and to avoid more invasive and expensive surgical excision.[12]

Literature review and our present experience suggest that characteristic large histiocytic aggregates is the single most consistent feature that helps in the diagnosis of DLN.[10-12]

It is suggested that in patients presenting with generalized lymphadenopathy with enlarged cervical, axillary, and inguinal group of lymph nodes, the differential diagnosis of DLN should be kept in mind, even in the absence of any obvious skin lesion. In our case, the patient was asymptomatic even after a 6-month follow-up and there was no clinical history suggesting malignancy substantiating the diagnosis made on cytology.

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Conflicts of interest
All authors declare that there is no conflict of interest and its authors’ original work.
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