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Pathology

CYTOLOGICAL DIAGNOSIS OF LEISHMANIAL LYMPHADENITIS

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ABSTRACT Leishmaniasis is a chronic inflammatory disease caused by obligate intracellular kinetoplast containing parasite of the genus Leishmania. Leishmaniasis produces varied group of clinical syndromes ranging from self-healing cutaneous ulceration to fatal visceral disease. In India it is endemic in Bihar, Sub-Himalayan regions and other north Indian states. We present a rare Cytology case of Leishmaniasis in a young boy, hailing from a non-endemic area, presenting as Isolated Inguinal Lymphadenopathy.

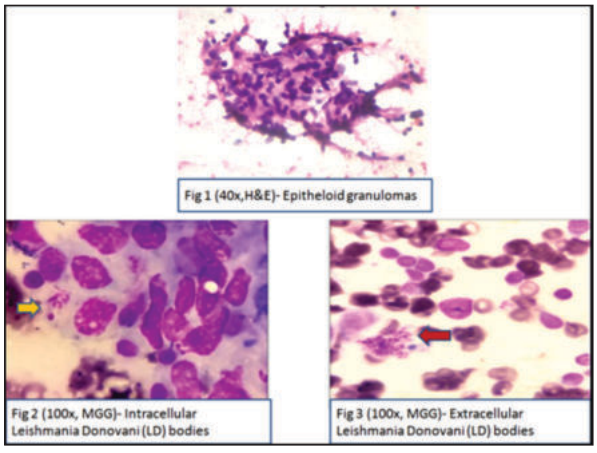
KEYWORDS : Visceral leishmaniasis, lymphadenopathy, Genus leishmania.

INTRODUCTION:

Leishmaniasis is a parasitic disease caused by a protozoal organism called "Leishmania species" which is transmitted by Sandfly. [1] Leishmaniasis is endemic in 97 countries in the world with annual incidence and prevalence accounting for about 2 million and 12 million people respectively.[2] World health organization reported 7,00,000 to 1 million new cases and 20,000 to 30,000 deaths annually. Most of the cases are endemic in tropics, subtropics, temperate and mediterranean basins and occurs in travellers coming back from those regions. Leishmania species produces four different types of lesions in humans namely visceral, cutaneous, mucocutaneous and diffuse cutaneous lesions.[1] Visceral leishmaniasis is a chronic infection affecting the mononuclear phagocytic system and causes severe systemic diseases characterized by fever, weight loss, hepatosplenomegaly, lymphadenopathy and pancytopenia. We describe an unusual case of Cytology of Visceral Leishmaniasis involving inguinal lymph node in a young boy hailing from a non-endemic area in Tamilnadu, presenting as Isolated Inguinal Lymphadenopathy.

CASE REPORT:

A 15 year old boy hailing from a village near Chengalpattu came with history of fever for 3 days duration followed by left inguinal region swelling for 1 week duration. Fever was intermittent, low grade and relieved by medications. On examination the left inguinal swelling was 3 x 2 cms, mobile, firm in consistency without any inflammatory signs. No other lymphadenopathy or hepatosplenomegaly was noted. He denied any history of travel to other states. Fine needle aspiration cytology of the left inguinal swelling was performed and the smears were moderately cellular showing sheets of polymorphous population of mature and stimulated lymphocytes admixed with plasma cells, plump histiocytes and occasional eosinophils.



Many areas also showed epitheloid granulomas along with microscopic structures morphologically consistent with Leishmania Donovani bodies (LD bodies) within the macrophages and also in extracellular location (Fig 1-3) based on which the Cytological diagnosis of Granulomatous Lymphadenitis related to leishmaniasis was made. Hematological investigations revealed mild lymphocytosis and the Peripheral blood smear did not show any LD bodies. Patient couldn't afford further Immunochromatographic test [rk39] for leishmaniasis. Based on the Cytology report appropriate treatment was started and the patient showed good response.

DISCUSSION:

Leishmaniasis is transmitted by the bite of female phlebotomine sand flies in endemic areas of the world. Visceral Leishmaniasis is caused by L.donovani and at times by L.infantum, together known as L. donovani complex. [1] Leishmanial amastigotes disseminate through the lymphatic and vascular systems and infect the reticulo-endothelial system, resulting in infiltration of the bone marrow, liver, spleen and lymph nodes.[2]

Asymptomatic infections are more frequently reported than symptomatic Visceral Leishmaniasis cases in immunocompetent hosts, demonstrating that many people infected with visceral leishmanial species develop an effective immune response and do not manifest the clinical disease.[3] In between, these symptomatic and asymptomatic infections, rare cases of a limited form of Visceral Leishmaniasis presenting as isolated lymphadenopathy without other evidence of Visceral Leishmaniasis have been described as 'Localized Leishmanial Lymphadenopathy'.[4] The clinical presentation of this emerging entity has been recently defined in 17 consecutive patients presenting with localized leishmanial lymphadenopathy during a large outbreak of L infantum Visceral leishmaniasis that occurred in Spain.[3] Localized leishmanial lymphadenopathy affects exclusively immunocompetent hosts, [3] similar to our case.

Diagnosis can be made by fine-needle aspiration cytology of the enlarged lymph nodes that will be characterized by granulomatous lymphadenitis with leishmanial parasites appearing as extracellular and intracellular collections of leishmania donovani bodies (LD bodies). Serological tests like ELISA and IFA [Indirect Fluorescent Antibody test] are more sensitive but lack specificity.[5]

Immunochromatographic test that detects leishmanial antibody using recombinant kinesin antigen [rk39] can be useful in some cases with ambiguous cytological findings.

CONCLUSION:

Leishmaniasis represents a major global health problem and a WHO classified neglected tropical disease.[6] Nearly 10% of the world's population is at risk of acquiring a form of leishmaniasis.[7] Among all the parasitic infections, this disease is responsible for the highest number of disability adjusted life years which is a measure of health burden, after malaria.[6] Leishmaniasis should be included in the differential diagnosis of isolated lymphadenitis in immunocompetent patients, even if the rk39 and IFA for kala-azar are reported as negative.[8]

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