

## Case Report

# Two cases of synchronous Classic Hodgkin lymphoma and tuberculosis

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## Introduction

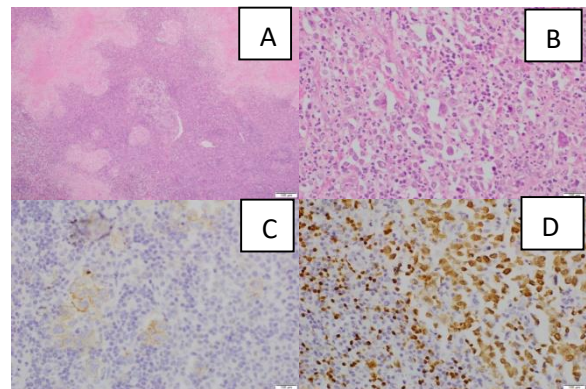
In countries endemic for tuberculosis, co-existence with other diseases are not uncommon. This poses a diagnostic challenge since the granulomatous reaction and extensive caseous necrosis can conceal the concurrent lesion often missing the second diagnosis. Hodgkin lymphoma has been not uncommonly reported with concurrent tuberculosis and there are case reports that the possibility of a concurrent lesion has been suspected and diagnosed only when the patient is not responding to anti-tuberculosis drugs (1). We report two cases of classic Hodgkin lymphoma masked by concurrent tuberculosis lymphadenitis.

### Case 1:

A 55 year old male presented with left cervical lymphadenopathy. On inquiry he has revealed of having frequent fever. The past medical history was otherwise unremarkable.

The Fine needle aspiration has revealed necrotic material only and histological diagnosis has been recommended. Histological analysis of the excision biopsy of the lymph node revealed a granulomatous inflammatory reaction composed of epithelioid cells and Langhan's type giant cells with extensive geographic caseous necrosis.

A part of the lymph node revealed preserved architecture with primary and secondary follicles. However, there was an area in which an atypical cell infiltration admixed with mature lymphocytes was to be made out. On close inspection the atypical cells resembled Reed-Sternberg cells with classic, mononuclear and multinuclear forms. The background contained predominantly mature lymphocytes admixed with plasma cells. Immunohistochemistry revealed the atypical cells to have variable staining with CD 20, Golgi and membrane pattern staining with CD 30 and weak nuclear staining with PAX 5. CD 3 was negative in large cells, however, the main population of



Case 1 A) H&E shows caseating granulomas x 40; B) Large cells resembling RS cells x 400; C) CD 30 shows golgi and membrane positivity in large cells; D) PAX5 shows weak positivity in large cells.



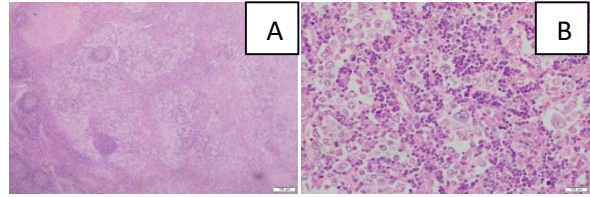
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background lymphocytes were CD 3 positive with rosetting of the large cells; CD 15 was negative in large cells. Accordingly a diagnosis of mixed cellular classic Hodgkin lymphoma with possible tuberculosis was made.

### Case 2:

A 65 year old male presented with fever, generalized lymphadenopathy, loss of appetite and weight for about three month duration. As he denied recent contact history of tuberculosis possibility of lymphoma was also be excluded.

Inguinal lymph node biopsy was performed and the histology revealed large areas of caseous type necrosis with scattered Langhan's type multinucleated giant cells favouring the diagnosis of tuberculosis. Even though the viable areas showed follicular structures with immunohistochemical feature suggestive of reactive process some of these follicles contained large cells which were suspicious of underlying neoplastic process. Therefore importance of a second biopsy was highlighted. The subsequent biopsy also revealed extensive geographic caseous necrosis. The residual nodal tissue showed large atypical mononuclear, multinuclear and classic bi nucleated Reed Sternberg cells with variable positivity for CD 20 and strong membrane and Golgi positivity for CD 30. CD 15 was difficult to interpret due to presence of numerous inflammatory cells in the background. Less intense nuclear positivity of PAX 5 in large cells also helped to confirm the diagnosis. Therefore, the biopsy appearance of the axillary lymph node of that patient was confirmed to be of mixed cellularity Hodgkin lymphoma co-existing with tuberculosis.



Case 2 A) H & E shows Large areas of caseous necrosis X40; B) large cells resembling RS cell variants in H & E X400

### Discussion

Lymph node is considered to be the commonest site of extra pulmonary tuberculosis (2). Even though presence of caseating and non caseating granulomata or large areas of caseous necrosis are highly suggestive of tuberculosis, special stains for positive Acid fast bacilli, culture positivity or TB- PCR are required for confirmatory diagnosis (2). Commencement of Anti TB drugs is quite commonly done empirically specially in TB endemic countries. In cases with persistent lymphadenopathy despite Anti-tuberculosis drugs usually points out to alternative diagnosis including possibility of dual pathology. Repeat biopsy or reevaluation may be required some of these instances.

Extra pulmonary tuberculosis coexisting in a lymph node with metastatic deposit has become a finding with increasing incidences. Several cases of axillary lymphadenopathy following metastatic deposits from breast carcinoma coexisting with tuberculosis have been reported. A few cases of lymphoma coexisting tuberculosis are reported up to date. Impaired immune function in lymphoma as well as other types of malignancies considered to be the major cause for reactivation of latent tuberculosis in them (3). Increased synthesis of IL- 10 is being investigated as a potential casual factor.

Increasing understanding in process of carcinogenesis has described ongoing chronic inflammation as a cause. Diffuse B large cell lymphomas associated with chronic

inflammation are described in this category (4). However up to date there is no evidence to suggest chronic TB predispose to lymphoma of either of Hodgkin or Non Hodgkin type (5). Association between Hodgkin lymphoma and EBV viral infection is long being described. But its tuberculosis association is rare being reported.

As clinical presentation of lymphoma and tuberculosis are the same, definitive diagnosis is a challenging process (6). Immunohistochemical workup is required in most instances as the morphology may be altered by the ongoing other pathologies. Presence of classic and morphological variants of Reed Sternberg cells warrants a diagnosis of Hodgkin lymphoma but confirmatory immunohistochemical stains are important in ultimate diagnosis.

Therefore when reporting a lymph node biopsy with features of tuberculosis specially the once with the atypical features it's important to examine several deeper tissue sections and to perform immunohistochemical analysis accordingly as the tuberculosis can mask other pathological processes due to large areas of necrosis.

## Conclusion

Coexistence of other diseases is quite common with tuberculosis. Even though rare occurrences these two case report highlights two cases of Hodgkin lymphoma masked by tuberculosis in Sri Lanka which is an endemic country for tuberculosis. They highlight importance of careful histological evaluation to prevent under diagnosis of dual pathologies.

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