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Coexistence of Large B Cell Non-Hodgkin's Lymphoma and Lymph Node Tuberculosis: A Case Report and Review of Literature

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Abstract **Case Report**

Tuberculosis (TBK) and Non-Hodgkin's Lymphoma (LNH) are two entities that threaten many lives around the world. Their coexistence in the same organ is rather rare and have received little attention [1]. We report the case of a Moroccan 45 year old man; who presented a swollen inguinal lympahadenopathy. He was previously diagnosed with lymphnode tuberculosis and treated with antituberculosis which he achieved 3 months before admission. In view of unresponsiveness to treatment and worsening of symptoms, a biopsy was conducted and the patient was diagnosed as diffuse Large B cells Non-Hodgkin's Lymphoma.

Key words: Tuberculosis - Non Hodgkin's lymphoma – Lymph node.

INTRODUCTION

The association of Tuberculosis (TB) with carcinoma was first described about 200 years ago by Bayle who considered cancerous cavitation as a type of TB[1]. Henceforth, the potential association between TB and cancer has been looked into.

CASE REPORT

A 45 year old Morroccan man, who was treated 3 months before admission for inguinal lymphnode tuberculosis confirmed on a positive culture to Mycobacterium Tuberculosis (MT), presented to our department with softness and fistula of the inguinal lymphnodes that evolved to ulceration and substance loss with muscle exposure and severe local infection (Figure 1-A). Moreover, the patient reported a weight loss of 10kg over 3 months. A skin biopsy for histological study revealed atypical lymphoid cells characterized by large cells with round morphology. Immunohistochemistry (IHC) report revealed the presence of tumor cells with expression of CD30, BCL6, Mum1 and Ki67, concluding to non-centrogerminative diffuse large B cell non-Hodgkin lymphoma (NHL) (Figure 2). Xpert MTB/RIF on a skin fragment was positive and showed sensitivity to Rifampicine. Extension workup revealed multinodular splenomegaly and pulmonary micronodules on thoraco abdomino pelvic CT scan. Anti-tubercular treatment (ATT) 2RHZE / 4RH was initiated 2 months before chemotherapy R-CHOP protocol (Rituximab, Cyclophosphamide, Doxorubicin, Vincristine, Prednisolone). At the end of treatment, clinical examination noted local healing of the previous ulceration and radiologic assessment showed regression of splenic lesions. The patient presented with pleurisy 6 months later. The fluid was serohematic at puncture and cytologic examination found exudative effusion. Pleural biopsy revealed a pleural localization of phenotype B NHL. Drainage and thoracoscopic talcage were performed. Unfortunately, the patient died shortly after.

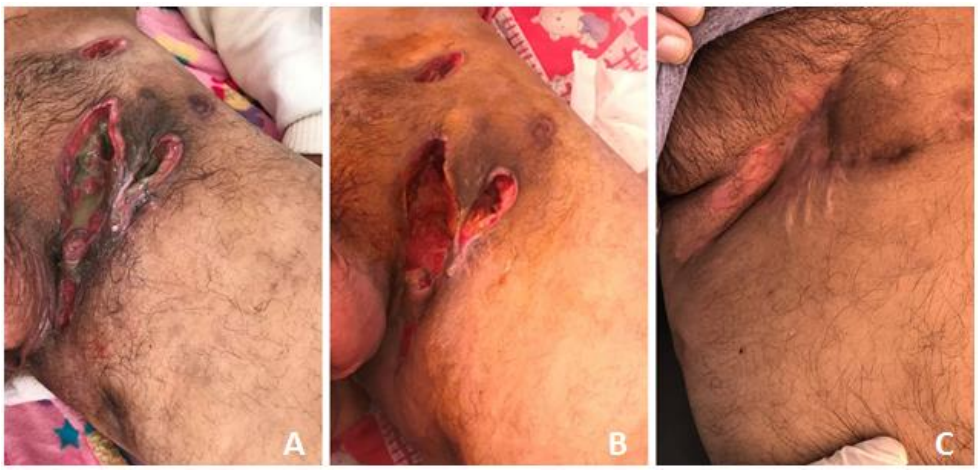

Fig-1: Clinical evolution
A: local condition on admission, deep inguinal ulcerations with purulent discharge
B: local condition after 10 days of antibiotics and daily dressing
C: healing after 6 months of ATT and 6 courses of chemotherapy (R-CHOP)

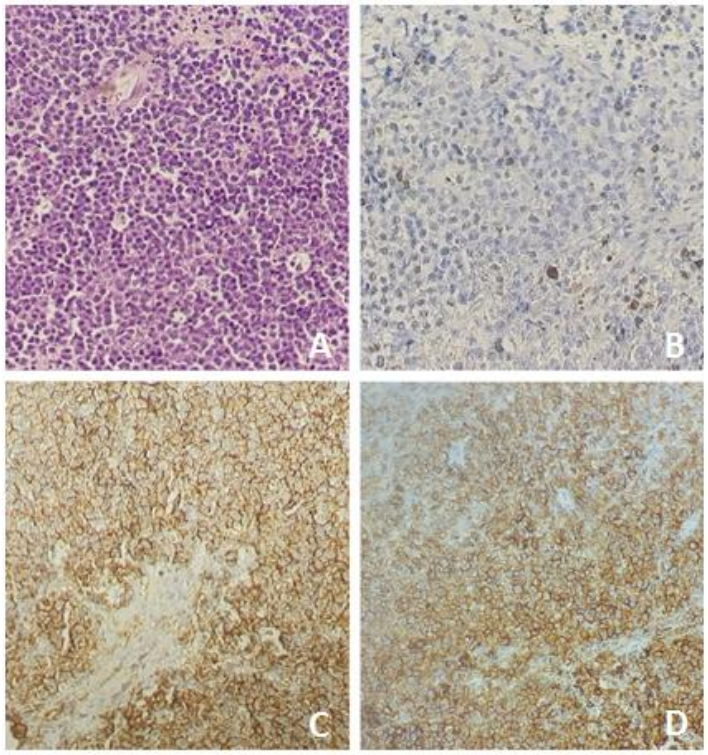

Fig-2: Histological study + IHC
A: Atypical lymphoid proliferation characterized by large cells with round morphology (Haematoxylin and Eosin x 40)
B: moderate diffuse membranous expression of anti-CD3 antibody tumor cells
C: moderate diffuse membranous expression of anti-CD20 antibody tumor cells
D: moderate diffuse membranous expression of anti-CD30 antibody tumor cells

DISCUSSION

NHLs are a heterogeneous group of malignant lymphoid tissue tumors. Large B-cell lymphoma accounts for 30 to 40% of NHL, making it the most common variety [2]. NHL may be preceded by chronic inflammatory disease and has been linked to immune deficiency. Its association with Helicobacter pylori, campylobacter and hepatitis C is already well established [3].

TB is mainly affected by cell-mediated immunity (T-cells), while large B cells NHL is primarily a B cell neoplasm. The association of malignant lymphoma and TB in the same patient has been reported in numerous cases before[4, 5]. Nevertheless, very few reports described their coexistence in cervical lymph nodes [6].

TB lymphadenitis generally responds to ATT. When it occurs, unresponsiveness is mainly due to atypical or resistant mycobacteria: New lymph nodes might appear, or existing lymph nodes might enlarge despite of treatment, both in immune deficient and immune competent patients. However, unresponsiveness to ATT is exceptionally caused by concomitant double pathology of lymph node [7].

The risk of NHL has been reported to be significantly increased (odds ratio 1.8) in people with a history of TB [8]. Askling et Ekbom conducted a study on 5050 patients previously treated for TBK and acknowledged history of TBK severe infection as a risk factor for LNH [9]. However, it is still not clear to this day whether the TB activation is enhanced by vulnerable immunity due to the malignant growth, or chronic latent TB is responsible for the malignant lymphoma[10]. A third hypothesis suggests that both the diseases occurred as separate entities without any causal relationship [7].

Although these two conditions are very common, little attention has been paid to the practical implications of their coexistence and even less to their treatment. In the absence of consensus, the time between the initiation of chemotherapy and antibacillary treatment when the two illnesses coexist represents a major therapeutic problem, given the risk of TB dissemination. In reverse this delay holds up the management of NHL and can cause us to waste precious time.

In the present case we chose to initiate ATT 2 months prior to chemotherapy to reduce the risk of dissemination. A similar case published by Mandal *et al*., reported complete remission with R-CHOP regimen and ATT both started at the same time. They noted that TB did not respond to treatment until NHL was taken care of, which was difficult to explain [7].

This case report is a reminder of the importance of critical thinking and pushing further investigations when the course of the disease is atypical. Sometimes, a disease hides another one. TB and lymphoma can be indistinguishable as they can share similar clinical and radiological presentation. Thus the diagnosis of lymphoma should be thought of as a possible explanation of the atypical evolution of a diagnosed TB under treatment, particularly when there is no evidence for antibiotic resistance [11].

CONCLUSION

The association of TB with lymphoma is rare and has a suspected, but unclear, pathophysiological basis. Further studies are needed to establish this correlation, especially in countries where TB is endemic.

REFERENCE

1. Bayle, G. L. (1810). *Recherches sur la phthisie pulmonaire*. Gabon.
2. Jaffe, E. S. (1998). Histopathology of the non-Hodgkin's lymphomas and Hodgkin's disease. *The lymphomas*.
3. Amlot, P. L. (1990). Cell-mediated Immunity in Lymphomas. In *Lymphoproliferative Diseases* (pp. 73-90). Springer, Dordrecht.
4. Bellido, M. C., Martino, R., Martìnez, C., Sureda, A., & Brunet, S. (1995). Extrapulmonary tuberculosis and non-Hodgkin's lymphoma: coexistence in an abdominal lymph node. *Haematologica*, *80*(5), 482-483.
5. Gilroy, D., & Sherigar, J. (2006). Concurrent small bowel lymphoma and mycobacterial infection: use of adenosine deaminase activity and polymerase chain reaction to facilitate rapid diagnosis and treatment. *European journal of gastroenterology & hepatology*, *18*(3), 305-307.
6. Audebert, F., Schneidewind, A., Hartmann, P., Kullmann, F., & Schölmerich, J. (2006). Lymph node tuberculosis as primary manifestation of Hodgkin's disease. *Medizinische Klinik (Munich, Germany: 1983)*, *101*(6), 500-504.
7. Mandal, P. K., Sarkar, S., Ghosh, M. K., & Bhattacharyya, M. (2014). Simultaneous dual pathology in lymph node. *Mediterranean Journal of Hematology and Infectious Diseases*, *6*(1).
8. Tavani, A., La Vecchia, C., Franceschi, S., Serraino, D., & Carbone, A. (2000). Medical history and risk of Hodgkin's and non-Hodgkin's lymphomas. *European journal of cancer prevention*, 59-64.
9. Fanourgiakis, P., Mylona, E., Androulakis, I. I., Eftychiou, C., Vryonis, E., Georgala, A., ... & Aoun, M. (2008). Non-Hodgkin's lymphoma and tuberculosis coexistence in the same organs: a report of two cases. *Postgraduate medical journal*, *84*(991), 276-277.
10. Askling, J., & Ekbom, A. (2001). Risk of non-Hodgkin's lymphoma following tuberculosis. *British journal of cancer*, *84*(1), 113-115.
11. Dres, M., Demoule, A., Schmidt, M., & Similowski, T. (2012). Tuberculosis hiding a non-Hodgkin lymphoma "there may be more to this than meets the eye". *Respiratory Medicine Case Reports*, *7*, 15-16.