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T-cell/Histiocyte-rich Large B-cell Lymphoma in an Adolescent from Abidjan-Ivory Coast: Case Report

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Abstract

T-cell/Histiocyte-rich large B-cell lymphoma (THRLBCL) is a rare pathology, uncommon in the children population, and the few cases reported had a wide range of clinical presentations, including advanced stage, extranodal involvement, and bad prognosis. The authors report a case of a 16-year-old male patient with no medical history, who presented a single left axillary adenopathy. T-cell/Histiocyte-rich large B-cell lymphoma was diagnosed by immunohistochemistry and was classified good prognosis. RCHOP-based chemotherapy was performed with good progress. The authors hope to contribute to the literature on THRLBCL and draw the attention of practitioners to its occurrence in the pediatric population.

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Introduction

T-cell/Histiocyte-rich large B-cell lymphoma is a rare variant of Diffuse Large B Cell Lymphoma (3-4%) (Ioachim & Ratech, 2002; Swerdlow, 2008). It differs from classical Diffuse Large B Cell Lymphoma (DLBCL) in the morphology and immunohistochemistry expression of various markers such as CD45, CD79a, and Bcl6 (Prasaad & Badhe, 2018). THRLBCL has a distinct clinical profile affecting the middle age population (Achten et al., 2002; Bouabdallah et al., 2003; El Weshi et al., 2007) with frequent involvement of liver, spleen, and bone marrow. Its prognosis is worse compared to the traditional DLBCL(Cornillie et al., 2012). Pathologically, it is characterized by less than 10% of large neoplastic B-cells in a background of abundant T-cells with or without the presence of histiocytes (Cornillie et al., 2012). We report the first case in Ivory Coast of THRLBCL, diagnosed in a 16-year-old male in our department, with clinical features and good evolution after treatment.

Narrative

Mr. Y.A., 16 years old male was referred to our department for a left axillary chronic adenopathy which has been evolving for about one year. The history did not reveal any signs of fever, night sweats, or weight loss and no treatments were initiated. The patient had no chronic pathologies. The clinical examination revealed a performans status of OMS at I, the absence of fever, skin and mucous membrane pallor, and a single axillary adenopathy, approximately 4 to 5cm, firm, mobile and painless. The histological feature of the adenopathy biopsy reveals large cells with ample cytoplasm, round core or notched, fine chromatin, and histiocytes without Reed Sternberg cells. The immunohistochemical examination found the same histological appearance with a predominance of T-cell lymphoma population (CD3 positive). Large cells were positive for CD20. They were negative for CD15, and CD30. The anatomopathological examination coupled with immunochemistry was consistent with THRLBCL. The clinical and paraclinical assessments of the extension were normal (blood count, standard biochemistry, routine hemostasis workup, bone marrow biopsy). CT scan of the neck, chest, abdomen, and pelvis did not find another location of adenopathies and the patient was classified Ann Arbor I, A, IPI 0, good prognosis. Pre-therapy assessments were normal with a normal heart function (FEV 77%), and a normal level of LDH. HIV, HTLV1, and EBV serologies were negative. Chemotherapy based on 8 cycles of R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone) was performed. This treatment

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resulted in complete remission. The patient was followed for two years without relapse or progression and was then lost to follow-up.

Discussion

T-cell/histiocyte-rich large B-cell lymphoma, originally considered as an uncommon variant of diffuse Diffuse Large B-cell Lymphoma (DLBCL), is recognized by World Health Organisation as a separate clinicopathological entity since 2008 and classified as mature B-cell neoplasm in the International Consensus Classification of mature lymphoid and histiocytic/dendritic cell neoplasms (Campo et al., 2022)

This case report is about a 16-year-old young man. Indeed, THRLBCL has a male predilection with a sex ratio of 7:1(Pittaluga & Jaffe, 2010). On the other hand, although THRBLCL patients are younger relative to DLBCL, it is rare in children (Chan & Chan, 2017; Gheorghe et al., 2015). It is rather described as a pathology of the elderly, which occurs in the 4th decade of life with a median age ranging from 30 to 49 years (Achten et al., 2002; Bouabdallah et al., 2003; El Weshi et al., 2007).

Clinically, patients with THRLBCL have more advanced-stage disease, B-symptoms, and important extranodal involvement (liver, spleen, and bone marrow) compared to other DLBCL types (Achten et al., 2002; Bouabdallah et al., 2003; El Weshi et al., 2007). However, the pediatric population tends to have a better prognosis upon diagnosis (Gheorghe et al., 2015). This was the case for our patient who did not present any B-symptoms, no other nodal or extranodal locations, and had an IPI prognosis score of 0.

Immunohistochemistry is very important for the diagnosis of THRLBCL. Indeed, at a lower examination, classical Hodgkin's lymphoma, which is more frequent in the pediatric population, can mimic THRLBCL as it shares histological similarities (Wei et al., 2018). This poses a real problem of differential diagnosis and can lead to an under or misdiagnosis of THRLBCL in this population, especially in our case where the clinical presentation was atypical.

RCHOP-based chemotherapy was performed according to the literature data. The GELA (Groupe d'Etudes des Lymphomes de l'Adulte) study, concludes that no different therapeutic regimens were recommended in THRLBCL compared to DLBCL and the outcome is the same in both diseases (Bouabdallah et al., 2003) with 5-year overall survival rates between 45%-58%. We realize 8 cycles of R-CHOP with good progression. That may be explained by its young age. According to Gheorghe et al, pediatric patients tend to have a better response to therapy compared to adults (Gheorghe et al., 2015).

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Conclusion

We describe a case of T-cell/Histiocyte-rich large B-cell lymphoma in a 16-young-old man, with a single axillary adenopathy. This an atypical case, according to the age and the clinical presentation, which can pose a differential diagnosis problem with classical Hodgkin Lymphoma. This reveals the critical importance of performing an immunohistochemical analysis to make a precise diagnosis, which will ensure appropriate treatments for these patients. Through this clinical case, we hope to contribute to the literature on THRLBCL and draw the attention of practitioners to its occurrence in the pediatric population.

Consent: Informed consent was obtained from the patient and his legal guardians.

Conflict of interest: All authors named in this case report declare that they have no conflict of interest.

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