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Review Article

Hodgkin Lymphomas: Experience of the University Hospital Center Mohammed Vi of Marrakech from January 2011 to February 2024

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Abstract

Hodgkin lymphomas (HL) represent 1% of all malignant tumors. It is composed of large mononucleated and multinucleated dysplastic cells, surrounded by a variable mixture of mature, non-neoplastic inflammatory cells. We report a retrospective study, spread over 134 months, involving 218cases collected at the Mohammed VI University Hospital in Marrakech between January 2011 and February 2024. HL is a disease that remains curable in the majority of cases but situations of therapeutic failure and relapses severely compromise the prognosis. Recent research on the molecular abnormalities of tumor cells or background cells has helped guide the therapeutic choice.

Keywords: hodgkin lymphomas (hl); diagnosis; histopathology; immunochemistry

Background

Hodgkin lymphomas (HL) represent 1% of all malignant tumors. It is composed of large mononucleated and multinucleated dysplastic cells, surrounded by a variable mixture of mature, non-neoplastic inflammatory cells [1]. On the basis of the immunophenotype and morphology of the neoplastic cells and the cellular background, two major types of HL are recognized: classic HL (CHL) and lymphocytic-predominant nodular Hodgkin's lymphoma (NLPHL). The aim of this work is to study the epidemiological and pathological characteristics of Hodgkin lymphoma.

Materials and methods:

We report a retrospective study, spread over 134 months, involving 218cases collected at the Mohammed VI University Hospital in Marrakech between January 2011 and February 2024.

Results:

Our results showed 2 frequency peaks in two age groups, the 1st between 15 and 30 years old noted in 56% of cases and the 2nd in patients aged over 50 years in 25.5% of cases. The sex ratio M/F was 1.4. The study material mainly focused on lymph node biopsies, whether superficial or deep (89.9% of cases), the cervical location of which was found in 77% of cases. Extranodal material represented 10.1% with an osteomedullary location in 6.5% of cases, three cases at the skin level, 3 cases at the pulmonary level and 2 cases at the tonsillar level. The histological and immunohistochemical study showed a percentage of 96.1% of tumors were classical Hodgkin lymphoma (CHL) (figureA) and 3.9% were nodular Hodgkin lymphoma with lymphocytic predominance (figureB). Concerning classical Hodgkin lymphoma; the scleronodular subtype is predominant, diagnosed in 135 patients or 64% of cases, the mixed cellularity subtype is diagnosed in 54 patients or 26%, then the lymphocyte depletion subtype is diagnosed in 13 patients (6% of cases) and the subtype rich on lymphocytes is the rarest in our series, found in 8 patients or 4% (figure C).

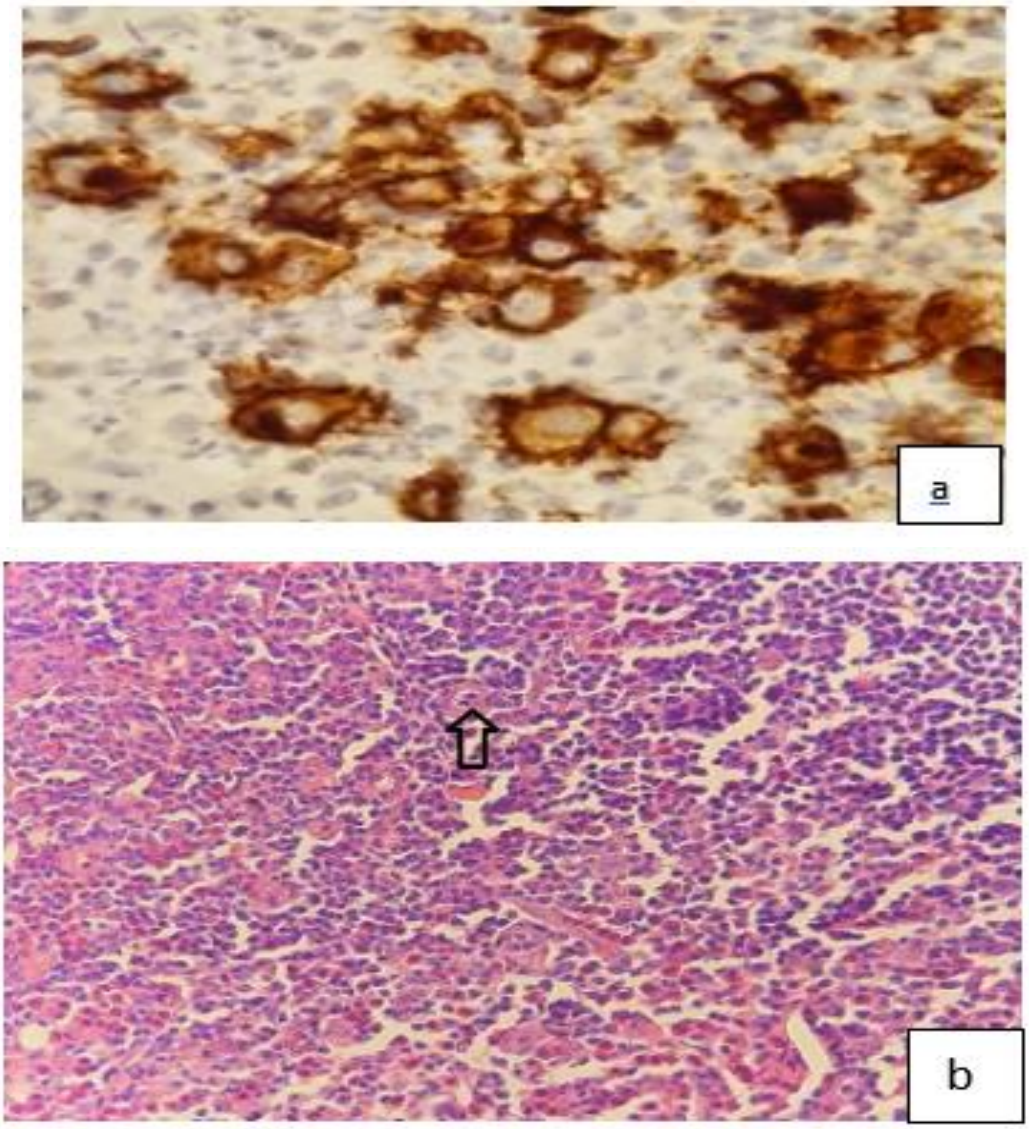

Figure A: a -Reed-Sternberg cells (black arrow). The background is made by small round lymphocytes, plasma cells and eosinophils (x20). b- Membrane expression of Reed-Sternberg cells to the anti CD30 antibody (x40)

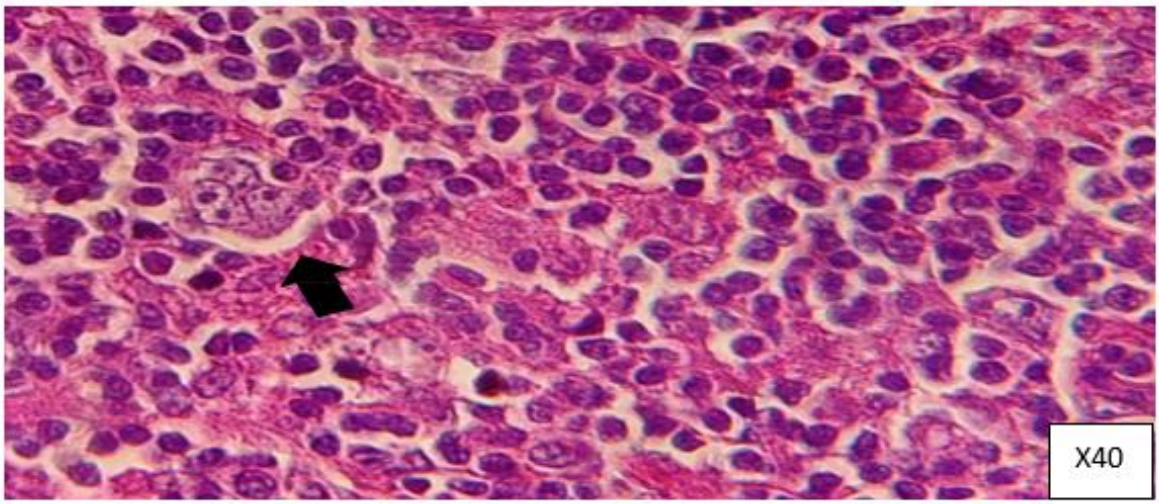

Figure B: large tumor cells having a multilobed nucleus describing a popcorn appearance (black arrow)

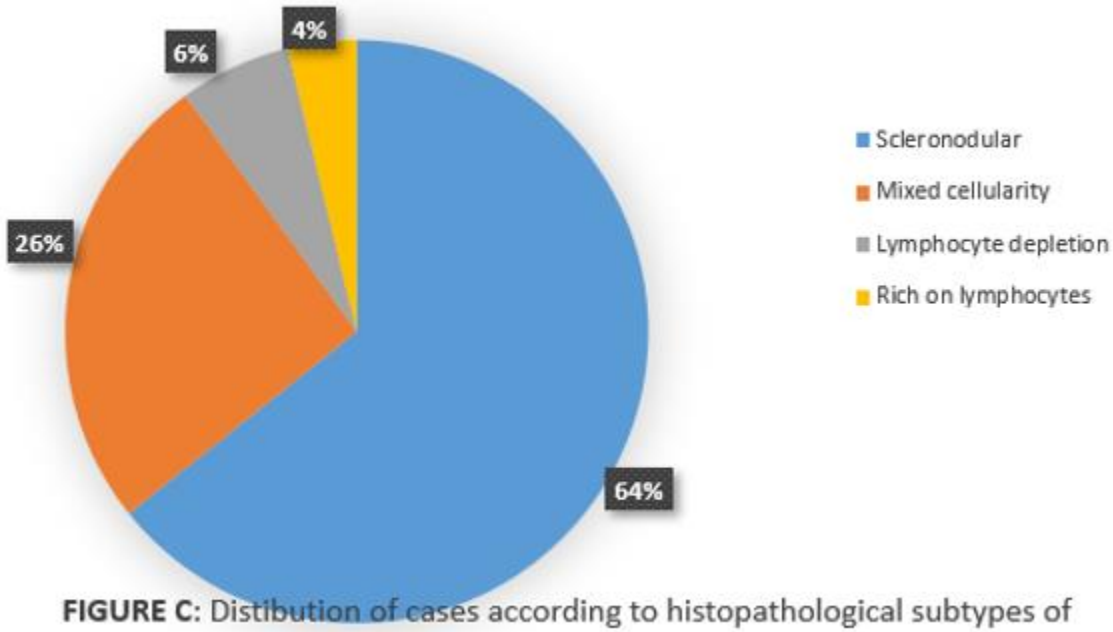

FIGURE C: Distibution of cases according to histopathological subtypes of Classical Hodgkin Lymphoma

Discussion:

Hodgkin lymphoma (HL) is a tumor of the lymphatic system representing one of the most common cancers in young adults (2). Histopathologically and immunohistochemically, 95% of HL cases are classified as classic HL (CHL), including nodular sclerosing, mixed cellularity, lymphocyte-rich, and lymphocyte-depleted HL subtypes (1,3). In 5% of cases, NLPHL is diagnosed (1,3, 4, 5). Classic HL is characterized by the presence of Hodgkin and Reed–Sternberg (HRS) cells expressing the anti-CD30 antibody and which are surrounded by variable inflammatory cells, while the malignant cells of NPLHL are large cells with polylobed nuclei or multilobed called “popcorn” cells or “lymphocytic predominant cells”. They are surrounded by mature lymphocytes and are characterized by their CD20 positivity and CD30 negativity (1). Which agrees with our result. Hodgkin lymphoma most often involves in the lymph nodes. Their diagnosis is based on a study of an excisional biopsy, most often lymph node. Prognostic models to identify patients at high or low risk for recurrence have been developed (6,7,8). The initial treatment for patients with Hodgkin lymphoma is based on the histologic characteristics of the disease, the stage at presentation, and the presence or absence of prognostic factors associated with poor outcome (4, 9, 10). Patients with early-stage Hodgkin lymphoma commonly receive combined-modality therapies that include abbreviated courses of chemotherapy followed by involved-field radiation treatment. In contrast, patients with advanced-stage Hodgkin lymphoma commonly receive a more prolonged course of combination chemotherapy, with radiation therapy used only in selected cases. For patients with relapse or refractory disease, salvage chemotherapy followed by high-dose treatment and an autologous stem cell transplant is the standard of care (4).

Conclusion:

HL is a disease that remains curable in the majority of cases but situations of therapeutic failure and relapses severely compromise the prognosis. Recent research on the molecular abnormalities of tumor cells or background cells has helped guide the therapeutic choice.

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