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ASSESSMENT OF PATHOLOGICAL FEATURES OF HODGKIN LYMPHOMA IN PAKISTANI POPULATION

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Abstract:

Introduction: *Hodgkin Lymphoma (HL) is an uncommon tumour, although it is one of the more frequent malignancies in young people.* ***Aims and objectives:*** *The basic objective of the study is to analyze the pathological features of Hodgkin lymphoma in Pakistan.* ***Material and methods:*** *This study was conducted in Mayo hospital, Lahore during July 2018 till December 2018. The data was collected from 50 female patients who were suffering from this issue. The included patients were fully anonymised before accessing their files and the study was approved by the ethical committee of the Hospital. Demographic data, presenting symptoms, examination findings, mainly number and size of nodal and extranodal regions, routine laboratory and histopathology results, treatment plan, and treatment outcome were retrieved from patients' records.* ***Results:*** *The data was collected from 50 female patients. In the current cohort, the majority (n = 99, 96.1%) of the patients presented with lymphadenopathy. The most common nodal sites involved were cervical and mediastinal. Histopathological examination of the LN revealed subtotal effacement of the nodal tissue by a diffuse proliferation of lymphoid cells intermixed with scattered histiocytes, plasma cells, and eosinophils.* ***Conclusion:*** *It is concluded that the associated risk features of the disease had a negative impact on survival rates; however, the associations did not reach statistically significant levels except for LDH.*

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INTRODUCTION:

Hodgkin Lymphoma (HL) is an uncommon tumour, although it is one of the more frequent malignancies in young people. Its annual incidence is 2–3 per 100,000 in Europe and the USA; though it accounts for 5–6% of all childhood cancer. There are variations in the epidemiologic and clinico-pathological characteristics of HL in relation to geography and socioeconomic status. In the industrialised countries, HL has a bimodal incidence with the main peak in young adults of 15–35 years and the second one occurring after the age of 50 [1]. On the other hand, the disease appears more in young children in the developing countries. Males are affected more often than females in all subtypes; however, the nodular sclerosing type occurs slightly more often in young females [2].

Hodgkin lymphoma (HL), formerly called Hodgkin's disease, arises from germinal center or post-germinal center B cells. HL has a unique cellular composition, containing a minority of neoplastic cells (Reed-Sternberg cells and their variants) in an inflammatory background. It is separated from the other B cell lymphomas based on its unique clinic-pathologic features, and can be divided into two major subgroups, based on the appearance and immuno phenotype of the tumor cells [3].

Of all Hodgkin lymphomas (HL), classical Hodgkin lymphoma (CHL) accounts for ~95% of all cases, whereas the remaining 5% comprises nodular lymphocyte predominant Hodgkin lymphoma. CHL shows a peak incidence at 15–35 years, and a second peak in elderly patients. Epstein–Barr virus (EBV) has been postulated to play a role in the pathogenesis and the outcome of CHL [4]. The reported incidence of EBV positivity in CHL cases varies: 31% (≥50 years old) (3) and 34% (≥60 years old) in two European studies, but up to 100% in tropical regions. In particular, EBV is frequently found in mixed cellularity and lymphocyte depleted subtypes [5]. The prognostic significance of EBV-association on OS in CHL cases is controversial. However, there have been several reports suggesting unfavorable OS in elderly patients with EBV-positive CHL compared with that of patients with EBV-negative CHL [6].

The tumoral population also includes a variable number of mononuclear elements, Hodgkin's cells (HCs) showing similar cytological features to RS cells and neoplastic cell variants, each corresponding to a specific subtype of HL. HL is considered as one of the malignant diseases that respond well to treatment. With continuing clinical trials and combination therapy over the last 30 years, survival rates have been continuously raised. The improvement in patients' survival is mainly remarkable in the paediatric age and low risk groups [7].

Aims and objectives

The basic objective of the study is to analyze the pathological features of Hodgkin lymphoma in Pakistan.

MATERIAL AND METHODS:

This study was conducted in Mayo hospital, Lahore during July 2018 till December 2018.. The data was collected from 50 female patients who were suffering from this issue. The included patients were fully anonymized before accessing their files and the study was approved by the ethical committee of the Hospital. Demographic data, presenting symptoms, examination findings, mainly number and size of nodal and extra nodal regions, routine laboratory and histopathology results, treatment plan, and treatment outcome were retrieved from patients' records.

Statistical analysis

The data were analysed using the statistical package for the social sciences (version 19).

RESULTS:

The data was collected from 50 female patients. In the current cohort, the majority (n = 99, 96.1%) of the patients presented with lymphadenopathy. The most common nodal sites involved were cervical and mediastinal. Histopathological examination of the LN revealed subtotal effacement of the nodal tissue by a diffuse proliferation of lymphoid cells intermixed with scattered histiocytes, plasma cells, and eosinophils. There were many large atypical cells consistent with Hodgkin/Reed–Sternberg cells and mummified cells seen in the reactive background. As the patient's general condition had rapidly deteriorated and as a part of staging workup for HL, BM examination was performed.

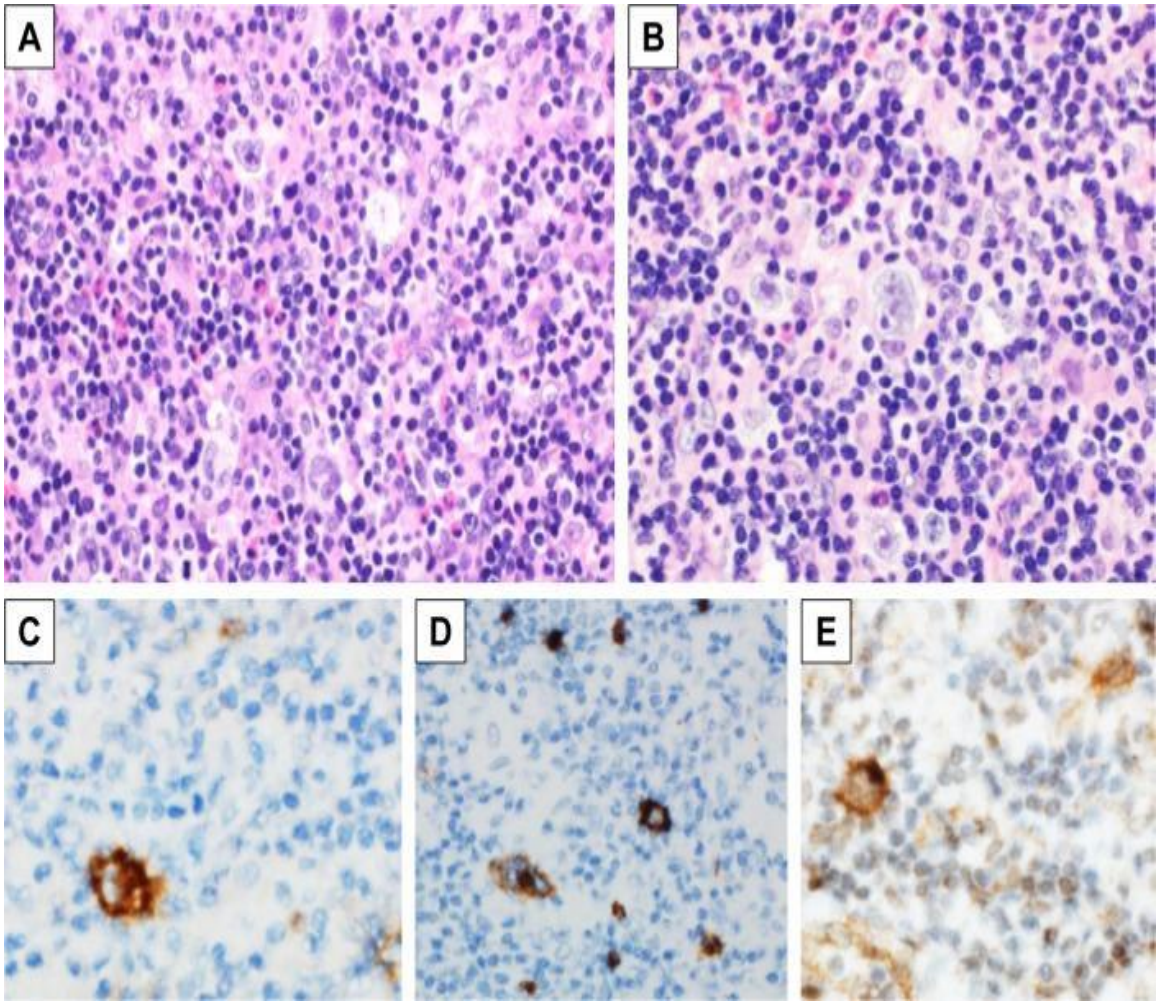

Figure 1: Histological examination. (A & B) Hodgkin/Reed-Sternberg cells seen in a reactive background of a lymph node tissue (H&E ×40). (C & D) Immunohistochemical study demonstrates that Reed-Sternberg cells are positive for CD30 and CD15. (E) Reed-Sternberg cells are positive for EBV (LMP-1).

DISCUSSION:

Generally, the associated risk features showed adverse correlation with the OS and PFS rates. However, only B-symptoms and high LDH revealed a significant correlation with the 5-year PFS rate. The absence of significant correlation between the survival and clinical stage of the disease is possibly due to the relatively short follow up period. Significant adverse correlation of the associated risk features with the survival had been reported by some studies but not by others [6]. Most of clinically reported CLs are actually sequential lymphomas in which two different histological types of lymphoma occur in the same group of LNs after successful treatment of the first lymphoma. In these instances, the development of the second lymphoma might have been a coincidental occurrence or secondary to cytotoxic therapy received for treatment of the first lymphoma [7]. Discordant lymphoma is another rare condition in which different types of malignant lymphomas occur in different anatomic sites. The two diseases may present clinically as concurrent or sequential disease [8].

Inspite of the relatively long history of LN enlargement, the possibility that BL could represent a transformation of HL is very remote, since cHL does not have a tendency to transform into more aggressive subtypes unlike NLPHL, which has a tendency to transform into a high-grade lymphoma [9]. The concept of CL was first proposed by Custer to denote the occurrence of more than one histological type of lymphoma in a single patient. The concept of CL is now restricted by some authors to the rare occurrence of two or more morphologically and immunophenotypically distinct lymphoma clones in a single anatomical site, ie, within a single organ or tissue [10].

In most instances (11 of 18 informative cases), the cHL and the NHL were clonally related. The reported NHL that was found to be clonally related to cHL included follicular lymphoma, mantle cell lymphoma, diffuse large cell lymphoma, and chronic lymphocytic leukemia. In eight of 18 combinations of a HL and a NHL that were

diagnosed consecutively, the lymphomas were clonally unrelated [11].

CONCLUSION:

It is concluded that the associated risk features of the disease had a negative impact on survival rates; however, the associations did not reach statistically significant levels except for LDH.

REFERENCES:

1. Kerl K, Girardet C, Borisch B. A common B-cell precursor in composite lymphomas. N Engl J Med. 1999;341:764–765.
2. Yoshinaga H, Ohashi K, Yamamoto K, et al. Clonal identification of Burkitt's lymphoma arising from lymphocyte-predominant Hodgkin's disease. Br J Haematol. 1996;95(2):380–382.
3. Kotila TR, Aken'ova YA, Shokunbi WA, Akingbola TS, Fasola FA. Hodgkin's disease after treatment for Burkitt's lymphoma: case report. East Afr Med J. 2001;78:6.
4. Chapman A, Rickinson A. Epstein-Barr virus in Hodgkin's disease. Ann Oncol. 1998;9:S5–S16.
5. Jarrett R, Gallagher A, Jones D, et al. Detection of EBV genomes in Hodgkin's disease: relation to age. J Clin Pathol (Lond) 1991;44:844–848.
6. Razzouk B, Gan Y, Mendonca C, et al. Epstein-Barr virus in pediatric Hodgkin's disease: age and histiotype are more predictive than geographic location. Med Pediatr Oncol. 1997;28:248–254.
7. Miettinen M, Franssila KO, Saxen E. Hodgkin's disease, lymphocytic predominance nodular. Increased risk for subsequent non-Hodgkin's lymphomas. Cancer. 1983;51:2293–2300.
8. Mokhtar N, Gouda I, Adel I. Cancer Pathology Registry Book (2003–2004) and Time Trend Analysis.1st ed. Cairo: NCI, Cairo University; 2007.
9. Tinguely M, Vonlanthen R, Müller E, et al. Hodgkin's disease-like lymphoproliferative disorders in patients with different underlying immunodeficiency states. Mod Pathol 1998; 11:307.
10. Glaser SL, Clarke CA, Gulley ML, et al. Population-based patterns of human immunodeficiency virus-related Hodgkin lymphoma in the Greater San Francisco Bay Area, 1988-1998. Cancer 2003; 98:300.
11. Garnier JL, Lebranchu Y, Dantal J, et al. Hodgkin's disease after transplantation. Transplantation 1996; 61:71.