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Bone Marrow Involvement and Immunohistochemical Profile in Mantle Cell Lymphoma – Experience from a North Indian Tertiary Care Center over 10 Years

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Background

Mantle Cell Lymphoma (MCL) is an aggressive variant of non-Hodgkin's lymphoma with frequent extra-nodal involvement, most commonly bone marrow[1]. Indian data with regards to comprehensive pathological characteristics of MCL is scarce.

Objectives

- Primary objective – To evaluate bone marrow (BM) involvement and immunohistochemical (IHC) profile in Indian MCL patients.
- Secondary objective – To assess pathological factors affecting overall survival (OS) and event-free survival (EFS).

Design

Ambispective clinico-pathological data of 91 MCL patients diagnosed at BRA-IRCH, AIIMS, New Delhi, India between Jan'13-Dec'23 was analysed using STATA version 13.0.

Method

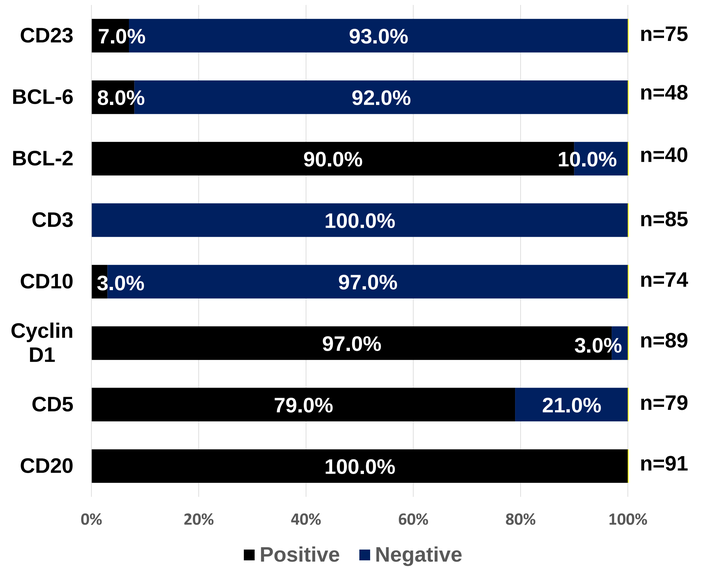
- Categorical variables summarised as frequency (percentage).
- Continuous variables summarised as median (range).
- Factors affecting OS and EFS were assessed in univariate and multivariate analysis (Cox proportional hazards model) and expressed as adjusted hazards ratio [95% confidence interval]; aHR [95%CI].
- P value < 0.05 defined statistical significance.

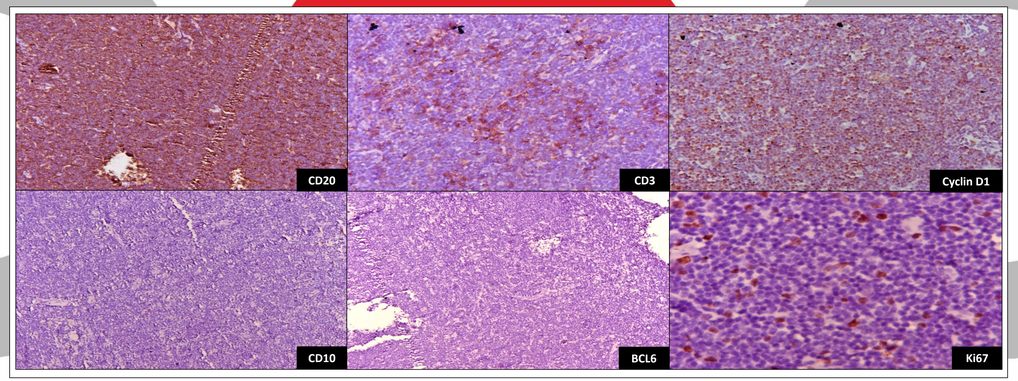
Bone marrow involvement

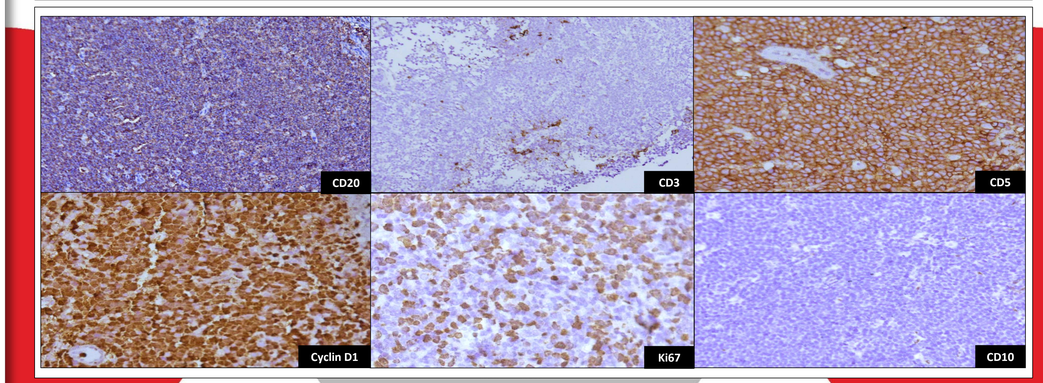
- Fifty-seven percent; pattern (overlap) – interstitial (62.0%), para-trabecular (62.0%), diffuse (29.0%).
- Thirty-five of 88 (40.0%) had atypical cells in both BM and peripheral blood (PB) by flowcytometry; 15.0% had BM without PB involvement.

Immunohistochemistry

Image 1: Component bar diagram showing IHC profile of MCL patients.







Regression analysis

- Univariate analysis – anemia, hypoalbuminemia but not LDH ≥ULN were associated with poor OS, EFS; leucocytosis associated with poor EFS but not OS. CD5-, Cyclin D1- IHC not associated with OS (P = 0.12, P = 0.41) or EFS (P = 0.38, P = 0.33).
- Multivariate analysis – anemia conferred poor EFS (aHR [95%CI]: 2.02 [1.15-3.55], P = 0.01).

Reference

1. Das ChK, Gogia A, Kumar L et al. Mantle Cell Lymphoma: A North Indian Tertiary Care Centre Experience. Asian Pac J Cancer Prev. 2016 Oct 1;17(10):4583-4586.

Conclusions

Over half had BM involvement in Indian population most commonly interstitial or para-trabecular pattern. One-fifth were CD5 negative and three percent were Cyclin D1 negative. Anemia was associated with poor OS and EFS in univariate analysis but only poor EFS in multivariate analysis.