SOHO ANNUAL MEETING 2024

PROGNOSTIC VALUE OF SERUM CALCIUM LEVELS, NEUTROPHIL TO LYMPHOCYTE RATIO, AND PLATELET COUNT IN MULTIPLE MYELOMA: A RETROSPECTIVE COHORT STUDY

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INTRODUCTION

Multiple myeloma (MM) is a hematological malignancy characterized by the proliferation of monoclonal plasma cells(1). Numerous prognostic parameters are described in MM, among which genetic abnormalities and response to treatment are the most robust(3). Despite new and improved biomarkers, there is insufficient information to support the routine use of predictive biomarkers for MM prognosis.

AIM

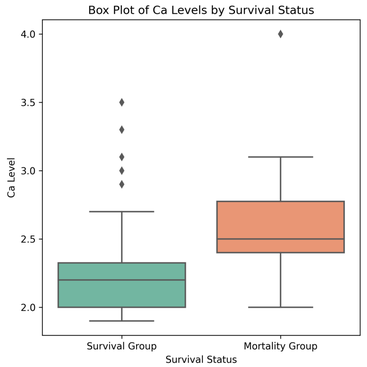
The objective of the present work was to determine the influence of low-cost prognostic markers including serum calcium levels, neutrophil to lymphocyte ratio (NLR), and platelet (PLT) count, on the survival rates of patients with MM.

METHOD

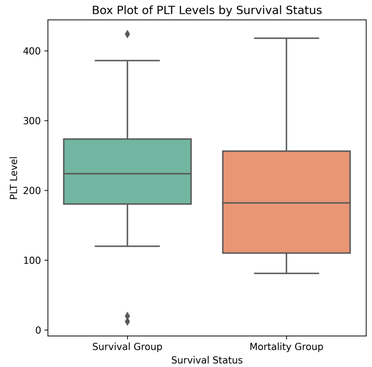
- NLR, PLT, and serum calcium levels were measured using Sysmex XN1000 and Cobas C-311 equipment.
- The Mann-Whitney U test was employed to analyze the differences between the survivor and non-survivor groups(2).
- A total of 54 patients were analyzed. The median age at diagnosis was 65 (range 40 - 80) with a gender distribution of 29 males (53.7%).

RESULTS

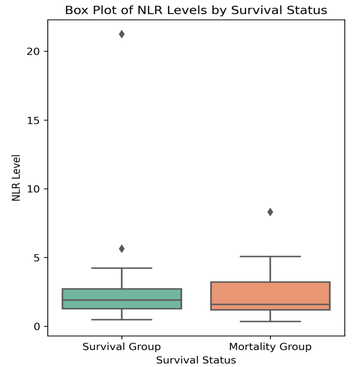
We demonstrated statistically significant differences in serum calcium levels between the survivor and non-survivor groups (2.31±0.399 vs. 2.65±0.516, P=0.003), indicating that higher calcium levels are associated with lower survival. However, NLR and PLT were not dependent prognostic factors for short-time survival, with NLR values of 2.59±3.257 for survivors and 2.46±2.272 for non-survivors (P=0.753), and PLT values of 227.28±87.245 for survivors and 202.33±117.119 for non-survivors (P=0.302).



We observed statistically significant increase in Ca levels for mortality group with p=0.003



No statistically significant difference was observed between groups p=0.302



No statistically significant difference was observed between groups p=0.753

CONCLUSIONS

This retrospective study highlights that elevated serum calcium levels at diagnosis are associated with a poorer prognosis in MM and serve as a valuable prognostic marker. Conversely, NLR and PLT do not significantly predict short-time survival in MM patients, and their combination with serum calcium does not enhance prognostic accuracy beyond the use of calcium alone.

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