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MULTIPLE MYELOMA WITH PLASMA CELL LEUKEMIA TRANSFORMATION

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INTRODUCTION

Plasma cell leukemia (PCL) is an aggressive and rare form of multiple myeloma (MM) that is characterized by a significant increase in the number of plasma cells circulating in the blood, as well as their presence in the bone marrow. While both PCL and MM involve the proliferation of abnormal plasma cells, the defining characteristic of PCL is the marked elevation of plasma cells in the peripheral blood. Specifically, PCL is diagnosed when there is either an absolute count of at least 2×10^9/L plasma cells in the blood or when these cells constitute more than 20% of the total leukocyte count. The identification of these thresholds is essential for differentiating PCL from MM and guiding the clinical approach to treatment.

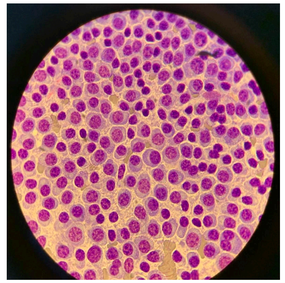
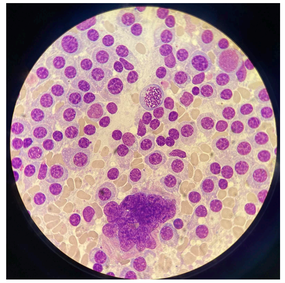
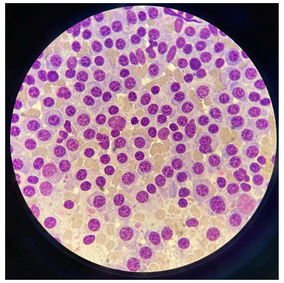
The treatment of Plasma Cell Leukemia (PCL) is challenging due to its aggressive nature and poor prognosis compared to multiple myeloma. Treatment of PCL with traditional cytostatic chemotherapy has shown poor results. However, following the introduction of ASCT, the proteasome inhibitor bortezomib and the immuno-regulatory drugs thalidomide and lenalidomide, the prognosis has improved.

METHOD

Case Presentation, the data were collected from the patient files in the Hematology Clinic of the University Clinical Center of Kosovo.

RESULTS

A 41-year -old male patient was admitted to our clinic with unremitting back pain, anemia, and renal impairment. He started hemodialysis and due to suspicion for MM, the patient underwent some laboratory tests, with the following results: ESR: 150 mm/h, WBC count: 3.5×10^9 cells/L, RBC count: 2.55×10^6 cells/µL, Hgb: 6.9 g/dL, PLT count: 90 $\times10^9$cells/L, urea: 14.91 mmol/L, creatinine: 715 mmol/L, uric acid: 334 µmol/L, total protein: 73 g/L, and albumin: 30 g/L.
Immunoglobulin results were IgG: 4.38 g/L, IgA: 0.08 g/L, IgM: 0.04 g/L, kappa: 0.49 g/L, lambda: 2.68 g/L , and kappa/lambda ratio: 0.19. Serum protein electrophoresis showed an M peak. Bone marrow aspirate showed 95% plasma cells. Bone marrow biopsy result showed MM (CD138+, IgK–/IgL+).
The patient started with chemotherapy on CyBorD. After 2 cycles of therapy, his general condition had not improved enough and therefore a re-evaluation of the disease was done. Results showed the presence of 30% plasma cells in the peripheral blood smear, and because of the transformation to PCL, the patient started treatment with VTd-PACE (3 cycles).

CONCLUSIONS

Due to the unavailability of bone marrow transplant procedure in our country, the patient was referred abroad where the necessary procedure was successfully performed. The transplant went well, and the patient responded positively to the treatment.

Currently, he is in a very good condition and is now in the second year of maintenance therapy with bortezomib every second week.

The patient's progress is being closely monitored, and his healthcare team remains optimistic about his continued recovery.

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