A 52-year-old female presented with generalized bone pain and pallor for several months. General physical examination showed chronically ill patient with bone pain without organomegaly. She was under follow up for seven years as chronic anemia.

Complete blood count revealed 110,000 white blood cell count and anemia (with hemoglobin 8 mg/dL), as well as platelet count less than 100,000. ESR was 96, although previous hematologic results only showed anemia without any evidence of malignancy.

Peripheral blood smear showed more than 90% plasma cells.

Blood urea nitrogen was 41 mg/dL and creatinin 1.4 mg/dL and also liver enzymes, especially LDH was more than 1400 u/L. Patient referred to an oncologist with presumptive diagnosis of PCL; therefore bone marrow biopsy was done and showed hypercellular marrow packed with plasma cells (Figures 2 and 3). Protein electrophoresis revealed M component. Immunohistochemistry study revealed positive reactions for CD138, CD38, Lambda light chain, and CD20 antibody but negative for CD56 and Kappa light chain antibody (Figures 4 – 6).

Skull X-ray showed no evidence of lytic lesion. The ultrasound study didn’t show organomegaly. After a good response to chemotherapy result of laboratory tests were excellent that complete blood count and bone marrow examination were cleared from malignant plasma cells. She was a candidate for a bone marrow transplant, however, she expired due to renal failure.

**Discussion**

We report a rare case of hematologic neoplasm. The patient abruptly developed PCL and presented with chronic anemia for several years. Tiedmann, et al. noticed that the median age of PCL cases is 55, about a decade younger than the median age of multiple myeloma patients. IHC from the bone marrow biopsy support our diagnosis that expressed CD38/CD20/CD138/lamda chain and negative for kappa chain and CD56.

IHC is very helpful in diagnosis of PCL specially for atypical forms. Sahara, et al. present cases of multiple myeloma some of which are CD56 negative that have extramedullary involvement and poor prognosis. PCL patients usually developed anemia and severe thrombocytopenia.

CD56 negative cases of PCL are more susceptible to renal insufficiency. CD56 negative cases are reported in patients with PCL rather than multiple myeloma. CD56 is an adhesion molecule that loss of expression of this molecule explains CNS involvement in aggressive forms of PCL.

Our case did not express CD56 on plasma cells in IHC study that show aggressiveness and susceptibility to extra medullary involvement.

Some researches show that the treatment of PCL is not effective
that the survival of these patients is less than 1 month in 28%.\textsuperscript{5,9,12} Even though our patient successfully tolerate treatment and after a short period her bone marrow and peripheral smear were cleared from plasma cells.

In summary, according to our case and review of the literature we think that CD56 negative plasma cells are more aggressive and mostly support a diagnosis of plasma cell leukemia.

\textbf{Conflict of interest: None declared}
References