

Prognostic Value of Pre-Treatment Serum Ferritin in Patients with Diffuse Large B-Cell Lymphoma (DLBCL)

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ABSTRACT

Background: The International Prognostic Index (IPI) is a the better predictor of outcome in diffuse large B cell lymphoma patients and remains widely used today, many studies have shown a correlation between high baseline serum ferritin concentrations and poor prognosis in many malignancies, which prompted us to study the prognostic value of Pre-treatment serum ferritin in patients with DLBCL.

Aim of study: Studying the effect of pre-treatment serum ferritin on outcome (OS, PFS, mortality) for 24 months in patients with DLBCL.

Patients and methods: A prospective study on 125 patients aged over 18 years with (DLBCL) newly diagnosed in the chemotherapy department at Tishreen University Hospital in Lattakia-Syria during 2015-2018. Patients were subjected to routine hematological and biochemical examinations and undergoing chemotherapy according to R-CHOP protocol. Baseline ferritin concentrations were assayed. We assessed the prognostic value of pre-treatment serum ferritin in patients with DLBCL through a study of overall survival (OS), progression-free survival (PFS) and mortality rate. The patients were divided into three groups according to baseline ferritin (ferritin less than 100 ng/ml-ferritin 100-200 ng/ml-ferritin greater than 200 ng/ml).

Results: The sample included 125 patients (67 males, 58 females), average age of 55 years. The mean serum ferritin was (366.2 ± 573.6) ng/ml. The average, overall survival (OS) and progression free survival (PFS) were respectively (18.5 ± 8.4) and (14.6 ± 8.4) months. The OS, PFS rate for 24 months were respectively 68%, and 36 %. An elevation of pre-treatment serum ferritin was accompanied by a bad prognosis at a severity rate of three times. The mean (OS) and PFS were respectively (12.7 ± 9.4) months and (9.3 ± 7.9) months in patients with serum ferritin greater than 200 ng/ml compared to (24 ± 0) months and (22.2 ± 3.7) months respectively in patients with serum ferritin less than 100 ng/ml (p -value = 0.01). Death occurred in 32% of total study sample, the relationship between the values of serum ferritin and the incidence of death was studied, it was found that there were statistically significant differences, noting that the average value of ferritin was (749.4 ± 872.1) ng/ml in the mortality group compared to (185.8 ± 229.6) ng/ml at alive group (p -value=0.01).

Conclusions: High baseline serum ferritin concentrations more than 200 ng/ml can predicting poor outcome (OS, PFS and mortality rate) in patients with DLBCL.

Keywords: Diffuse large cell B-lymphoma, Serum ferritin, Prognostic value

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