



High serum ferritin level is a simple and easily accessible prognostic indicator in newly diagnosed PTCL

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This month in the International Journal of Laboratory Hematology, the first report investigating the prognostic value of serum ferritin level at diagnosis for newly diagnosed PTCL patients was published by S. Koyama from Yokohama City University Graduate School of Medicine, Yokohama, Japan, and colleagues.

This retrospective study analyzed data from 1998 to 2011 gathered from eight centers in Japan belonging to the Yokohama City University Hematology Group. Seventy-eight newly diagnosed patients with either PTCL Not Otherwise Specified (NOS; n = 39) or Angioimmunoblastic T-Cell Lymphoma (AITL; n = 39) who had received a first-line therapy containing an anthracycline were identified. In all centers included in the data analysis, serum ferritin level was measured by a latex agglutination test. The normal serum ferritin range for men and women is 13–277ng/mL and 5–152ng/mL, respectively.

Key Highlights:

- Males = 50, females = 28; median age = 64yrs (range, 16–83yrs)
- Median follow-up for surviving pts = 50 months (range, 2–116 months)
- CR = 65% (51 pts; relapse occurred in 27 of these), PR = 21% (16 pts), PD = 14% (11 pts)
- 4-yr OS = 54%; 4-yr PFS = 36%
- Pts with serum ferritin level above Upper Normal Limit (UNL) at diagnosis = 28 (36%); remaining 50 pts were within normal range
- >UNL serum ferritin associated with elevated LDH ($P = 0.015$), poor performance status (2–4; $P < 0.001$), presence of bone marrow infiltration ($P = 0.04$), high IPI score (≥ 3 ; $P = 0.002$), and high PIT score (≥ 3 ; $P < 0.001$)
- >UNL pts compared to pts within normal ranges had worse 4-yr OS (23% vs 72%; $P < 0.001$), 4-yr PFS (24% vs 43%; $P = 0.021$), and CR rate (36% vs 82%; $P < 0.001$)
- Poor performance status and >UNL serum ferritin level were found to be independent risk factors for poor OS via multivariate analysis

The authors of this analysis found that serum ferritin level over UNL is associated with a poor OS in newly diagnosed PTCL patients. A significant association was also found between a high serum ferritin level and elevated LDH, poor performance status, and high PIT/IPI scores. The authors hypothesized that high serum ferritin levels could increase lymphoma cell proliferation and treatment resistance, potentially resulting in low rates of remission and poorer outcomes. Moreover, the authors did note some limitations of their study, namely its retrospective nature and the heterogeneous treatment methods used by the different centers. The authors concluded that serum ferritin level is simple and easily accessible and so is a potentially useful prognostic indicator in newly diagnosed PTCL patients, however their findings require validation in a larger, prospective study.

Reference:

1. Koyama S. et al. Serum ferritin level is a prognostic marker in patients with peripheral T-cell lymphoma. International Journal of Laboratory Hematology. 2017 Feb; 39(1):112–117. DOI: 10.1111/ijlh.12592. Epub 2016 Nov 24.

Abstract:

INTRODUCTION: The prognostic value of serum ferritin level in patients with peripheral T-cell lymphoma (PTCL) remains unknown.

METHODS: We retrospectively analyzed clinical data from 78 consecutive patients with newly diagnosed PTCL that were treated with anthracycline-containing regimens between 1998 and 2011.

RESULTS: The patients consisted of 50 males and 28 females with a median age of 64 years (range, 16-83 years). The subtypes of PTCL were 39 PTCL, not otherwise specified and 39 angioimmunoblastic T-cell lymphoma (AITL). The median observation period for the surviving patients was 50 months. The overall survival (OS) was poorer in patients with serum ferritin level above the upper normal limit (n = 28), compared with patients with serum ferritin level within normal range (n = 50; 4-year OS: 23% vs. 72%; P < 0.001). In the multivariate analysis, poor performance status (P = 0.006) and elevated serum ferritin level (P = 0.018) were independent risk factors for poor OS.

CONCLUSION: Serum ferritin level is a useful prognostic marker for PTCL.

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