

# Signs, symptoms and complications of non-Hodgkin's lymphoma according to grade and stage in south Iran

Haddadi S, Dehghani M and Vojdani R

Shiraz University, Iran

---

## Extended Abstract

**Background:** Non-Hodgkin's lymphoma (NHL) is a heterogeneous type of neoplasm of the lymphatic system. In order to have a more accurate and early diagnosis we need to be familiar with signs, symptoms and complications of lymphoma in early stages besides pathology and immunohistochemistry. **Materials & Methods:** This prospective study included 110 cases of NHL that were followed since February 2012 till November 2013. Biopsies were taken from all the patients besides bone marrow study. Signs and symptoms were categorized into "B" symptoms, general, lymphadenopathy and extranodal involvement, and we compared the frequencies by stage and grade and immunohistochemistry types. Descriptive analysis determined the mean, median, standard deviation and frequency of the variables. Chi square test was done to compare the frequencies of signs, symptoms and complications by stage, grade, sex and age of the patients. The significance level was determined 0.05 in these analyses. Means of quantitative variables were compared in different levels of qualitative by one way ANOVA test. Independent sample t-test was also used for this analysis. **Results:** Between the 110 cases, 88.9% had B-cell and 11.1% T-cell type NHL with mean age  $48.5 \pm 18.6$  years. "B" symptoms and lymphadenopathy were more common in men. Cervical lymphadenopathy was the most common sign (44.8%). Hematologic, bone marrow, bone and neurologic lesions were the most common complications. All complications were more common in males. "B" symptoms were seen mostly in stage III, general signs and symptoms in stage IV, and lymphadenopathy in stage II. Intermediate grade was the most common grade in relation to all the signs and symptoms. In this study 12 (10.9%) patients had relapse, with neurologic and bone marrow as the most common sites of tumor recurrence. **Conclusions:** There is a meaningful relationship between male gender for NHL and anemia that can be due to higher incidence of bone marrow involvement and stage IV disease in male cases. We also found a strong relationship between low grade NHL and age. The prevalence of NHL was higher in male patients however it was reverse with a significant difference in patients who had high serum ESR level at presentation which can suggest etiologic differences and the role of immunologic factors in evolution of this malignant disease. Extranodal involvement was also more common in female group.

---

**Keywords:** Non-Hodgkin's lymphoma; Immunohistochemistry; Lymphadenopathy; NHL; Anemia;

---

## Biography

Haddadi S, MD, is an International Medical Graduate from Iran. She graduated and was licensed from Shiraz University of Medical Sciences in 2014, then practiced as a primary care physician in rural and underserved areas in South of Iran in Khafr clinic for 17 months. She has been attending Kaplan Medical Test Preparatory in Chicago since Sept 2015 to sit for the USMLE exams and apply for Internal Medicine Residency in the US. During her internship in Shiraz, she worked at inpatient and outpatient clinics, as well as the oncology hospital wards. While providing care for cancer patients, she investigated and studied the signs, symptoms and complications of 110 patients with Non-Hodgkin's lymphoma (NHL), at presentation and relapse, and defended her thesis about NHL with the score of 19.83/20 by graduation from Shiraz University.

---