



NON-HODGKIN'S LYMPHOMAS IN THE ELDERLY: STRUCTURAL FEATURES, CLINICAL AND IMMUNOLOGICAL CHARACTERISTICS

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Article history:	Abstract:
<p>Received: November 14th 2023 Accepted: December 11th 2023 Published: January 20th 2024</p>	<p>Non-Hodgkin's lymphomas (NHL) are a group of malignant tumors that develop from lymphoid tissue. In older people, the incidence of NHL increases. The study, conducted between 2021 and 2024, analyzed data from 169 older patients with NHL. The age of the patients ranged from 60 to 86 years, the average age was 69.4 years. The ratio of men and women was equal. The findings are consistent with other studies that have shown that older patients with NHL are more likely to have aggressive forms of the disease, delay presentation to medical care, and have a poorer prognosis. The findings highlight the importance of early diagnosis and treatment of NHL in older patients. Early treatment may improve the prognosis of the disease.</p>

Keywords: Non-Hodgkin's lymphomas, elderly people, structure, clinical features, immunological features

RELEVANCE.

Non-Hodgkin's lymphomas (NHL) are a group of malignant tumors that develop from lymphoid tissue. They are the second most common malignant blood tumor after chronic lymphocytic leukemia. In old age, the incidence of NHL increases. Thus, in people over 65 years of age, it accounts for about 40% of all cases of NHL.

Non-Hodgkin's lymphomas are a heterogeneous group of malignant lymphoproliferative diseases that differ from each other in clinical, morphological, immunological and molecular biological characteristics. In the structure of all registered malignant tumors, non-Hodgkin lymphomas account for 3.1% [1,2]. Over the past twenty years, there has been a pronounced tendency towards an increase in the incidence of HXJI, approximately by 3-4% per year in Russia [4, 8,9,11]. Particular attention is drawn to the dependence of the growth rate on age: an increase in the incidence rate of HXJI from 0.7 cases in children to 20 cases in the elderly per 100,000 population per year [12,13].

Among non-Hodgkin's lymphomas, non-Hodgkin's lymphomas in the elderly represent a special group. The incidence rate of NHL at the age of 15-20 years is more than 10 times lower compared to that at the age of over 75 | years (this feature is characteristic of both sexes) [3,6]. In accordance with the decision of the WHO Regional Office for Europe, older people are people aged 60-75 years.

In our work, we included patients 60 years of age and older in accordance with the term "elderly" existing in the English-language literature, which unites all patients 60 years of age and older.

Among all cases of newly diagnosed NHL, more than half are diagnosed in patients over 60 years of age. According to various authors, all types of non-Hodgkin lymphomas occur in patients over the age of 60 [7,9,10].

The development of various methods of immunological diagnostics has made it possible to accurately determine the variant of lymphoproliferation from a small volume of tumor tissue or based on a study of blood, exudate or transudate. These capabilities of the method are especially important when making a diagnosis in elderly patients, since in most cases they have different and often combined somatic pathologies, which limit the use of invasive, and in some cases, non-invasive research methods.

Another aspect of special attention to older patients with HXJI is the determination of treatment strategies. The choice of therapeutic approach is influenced not only by the morphoimmunological variant of HXJI, but also by the presence of concomitant somatic pathology, previous diseases, medications taken continuously to correct chronic pathology, and the cognitive status of the patient. It should be noted that toxic complications of drug therapy, in particular antitumor therapy, are more common in elderly patients. This is due not only to the existing somatic pathology, but also to a progressive multi-organ decrease in the functional reserves of the body with a corresponding decrease in tolerance to chemotherapy [34].

PURPOSE OF THE STUDY- determination of the structure, clinical and immunological features of non-Hodgkin lymphomas in elderly people.



MATERIALS AND METHODS:

The study, conducted between 2021 and 2024, analyzed data from 169 older patients with non-Hodgkin's lymphoma (NHL). The age of the patients ranged from 60 to 86 years, the average age was 69.4 years. The ratio of men and women was equal.

According to the morphoimmunological characteristics of the tumor process, the patients were divided into several groups. To clarify the immunosubtype of NHL, the following monoclonal antibodies were used:

- Total leukocyte antibodies (CD45) - to detect blood cells.
- Progenitor cell markers (CD34, TDT) - to identify young blood cells.
- T-cell antigens (CD2, CD3, CD4, CD5, CD7, CD8) - to identify T-lymphocytes.
- B-cell markers (CD10, CD19, CD20, CD21, CD22, CD23, CD37) - to identify B-lymphocytes.
- Histiocyte antigens (CD163) - to identify histiocytes.
- Activation antigens (CD30, CD38) - to identify activated cells.
- Additional antibodies (HLA-DR) - to identify cells with certain antigens on the surface.

Among elderly patients, a significantly larger number of patients with B-cell lymphomas were identified - 154 patients (9.1.8%) compared to T-cell lymphomas (8.2%).

An exception is Burkitt's lymphoma: in general publications the average age of these patients is 30 years, but our work describes 2 cases of Burkitt's lymphoma in patients aged 65 and 67 years, which confirms the possibility of developing this morphoimmunological variant of NHL in older people.

RESULTS AND DISCUSSION:

The study showed that the following structural features are more common in older patients with NHL:

- Aggressive forms of NHL, such as diffuse large B-cell lymphoma (DLBCL), high-grade follicular lymphoma (HFHL), Burkitt's lymphoma and Hodgkin's lymphoma.
- Lymphomas with germline mutation of the MYC gene.

The following clinical features are also more common in older patients with NHL:

- General weakness, malaise, fever, weight loss.
- Local symptoms such as enlarged lymph nodes, liver, spleen.
- Later timing of seeking medical help.

Finally, the following immunological features are more common in older patients with NHL:

- Reduced immune reactivity.

- NHL with immunosuppression.

The findings are consistent with other studies that have shown that older patients with NHL are more likely to have aggressive forms of the disease, delay presentation to medical care, and have a poorer prognosis.

Decreased immune responsiveness in older adults may contribute to the development of NHL and may also contribute to a more aggressive course of the disease. NHL with immunosuppression is also more common in older adults. These lymphomas are often associated with factors such as HIV infection, autoimmune diseases, and immunosuppressive medications.

The findings highlight the importance of early diagnosis and treatment of NHL in older patients. Early treatment may improve the prognosis of the disease.

CONCLUSION:

Non-Hodgkin's lymphomas in the elderly are heterogeneous in morpho-immunological and clinical characteristics: at the age of 60 years and older, all morpho-immunological subvariants of NHL occur: B-cell lymphomas predominate (91.1%) - diffuse large B-cell lymphoma - 38.5%, follicular 23% and marginal zone lymphomas - 19% (of which MALT-omas - 16%). A casuistically rare subvariant of NHL is Burkitt's lymphoma - 1.2%.

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