

# Adult Non-Hodgkin's Lymphoma

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Adult Non-Hodgkin's Lymphoma (NHL) is a diverse group of lymphoid malignancies, with an increasing annual trend world over<sup>1</sup>. NHL has shown an increase by 39% in Caucasians and 46% in black population and is at least three times more frequent than Hodgkin's disease, as shown by the SEER study<sup>2</sup>. Intermediate grade lymphoma still constitutes the largest proportion of NHL<sup>2</sup>. Increased incidence of NHL is largely because of large share from NHL in older age groups<sup>2</sup>. Increased incidence rates of NHL in younger age groups are attributed to its association with AIDS in recent times<sup>3</sup> and also to classify a large number of cases as NHL which previously used to be labeled as unspecified malignant lymphoma<sup>2</sup>. NHL is more common in developing world and shows a wide geographic variation in its pathobiological characteristics<sup>4,5</sup>.

Extranodal lymphoma is reportedly 26% of all lymphomas and has increased by 4%, with most frequent sites being stomach, skin, oral cavity, pharynx, small intestine and brain in that order. Some of the sub-types like diffuse large cell NHL, large cell immunoblastic NHL and small non-cleaved cell NHL are increasing<sup>2</sup>. NHL can be a B cell or T cell type as cell of origin.

In a local population based study malignant lymphomas are 5.7-8.7% in males and 1.2-1.7% in females<sup>6</sup>. The national cancer database organized by Pakistan Medical Research Council indicates that 6.3% of all male tumors and 1.9% of all female tumors are lymphoma. About 14.8% male lymphoma is NHL, while 18.4% of female lymphoma are NHL<sup>7</sup>.

Immunogenetic sub-typing, flow cytometry and gene re-arrangement studies and molecular biology techniques are increasingly being incorporated in lymphoma management and diagnosis and have changed over concepts tremendously<sup>8</sup>. Hair dyes and herbicides are currently new entities in addition to genetic and environmental factors in etiology of NHL. Viruses (HTLV-1, HIV and EBV), congenital immunodeficiency, organ transplantation and autoimmune disorders are other precipitating factors<sup>8,9</sup>. The treatment options are surgery, radiotherapy, chemotherapy (CHOP, M-BACOD, m-BACOD, ProMACE/cytarabine, MACOP-B), with PBST/BMT<sup>9</sup>. The clinical presentation is vague with symptoms like decreased appetite, loss of weight, excessive night sweats, tiredness, itching, insomnia, discomfort or pain<sup>10</sup>.

Excisional biopsy is preferred over FNAB where possible. Other tests are complete physical evaluation, CBC with ESR, biochemistry, XR, CT/MRI, bone marrow biopsy, Gallium scan of nodes, lymphangiogram, biopsy/exploration, endoscopy and biopsy. NHL usually shows centrifugal nodal involvement<sup>8-10</sup>. Overall median survival is 8-9 years and increasing condition to early diagnosis combined with prompt and effective treatment<sup>8</sup>. Currently REAL (Revised European American classification of lymphoid neoplasm) is widely used and accepted<sup>8</sup>.

The prognosis and overall survival is good in NHL, with early diagnosis and prompt treatment. The same can be achieved in our local lymphoma patients with improvement in diagnostic and therapeutic approach. There is an immense need for improvement in histopathology training, incorporation of new diagnostic modalities and evaluation of cost effective treatment protocols for our population of patients. There is no reason not to achieve the same level of life expectancy and quality of life in our patients, if these above-mentioned considerations are given the due attention.

## References

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