PRIMEVIEW

HODGKIN LYMPHOMA

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Hodgkin lymphoma (HL) is a rare B cell malignancy with atypical features, such as a paucity of malignant cells in the tumour microenvironment (TME), very good cure rates (even in metastatic disease) and a high sensitivity to radiation therapy. Some cases of HL are associated with Epstein–Barr virus (EBV) infection.

EPIDEMIOLOGY

Although the overall incidence of HL is low (age-adjusted annual values of 2–3 per 100,000 individuals of European ancestry), HL is one of the most common cancers in adolescents and young adults

HL incidence has a second lower peak in the elderly population

The incidence of HL peaks in young individuals (of 15–35 years of age); the most common type of HL in this age group is nodular sclerosis HL (NSHL), which is typically EBV-negative

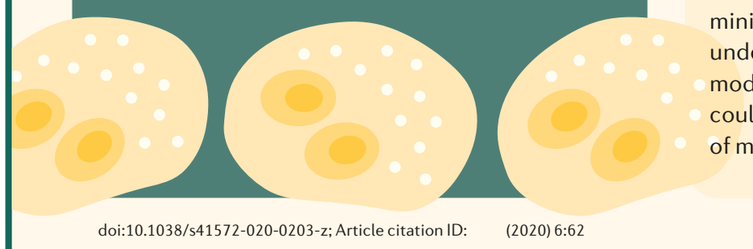
DIAGNOSIS

HL can be classified as classic HL (cHL, which accounts for ~90% of cases) or nodular lymphocyte-predominant HL (NLPHL). cHL is further divided into four types on the basis of the morphology and cellular composition of the TME. Diagnosis relies on histological and immunohistochemical analyses of excisional lymph node biopsy specimens to detect the presence of tumour cells and determine their antigen expression profile (including EBV RNA or proteins).

The highest incidence of mixed cellularity HL (MCHL) is in elderly individuals; MCHL is mostly EBV-positive

MECHANISMS

Tumour cells (known as Hodgkin and Reed–Sternberg (HRS) cells in cHL) are of B cell lineage but have lost the B cell phenotype (that is, they do not express typical B cell markers). By altering several signalling pathways, HRS cells escape detection by the immune system while recruiting a variety of immune effector cells to the TME. Crosstalk between HRS cells and non-malignant cells in the TME promotes the survival of HRS cells.



MANAGEMENT

Limited-stage disease is usually treated with two or three cycles of chemotherapy and radiation therapy to the involved site, whereas advanced-stage disease requires six cycles of chemotherapy. Functional imaging tests during or at the completion of the course of chemotherapy can help to determine the treatment response and guide further management choices. Refractory or recurrent disease can be treated with high-dose chemotherapy followed by autologous haematopoietic stem cell transplantation (ASCT) or second-line chemotherapy in patients who are not suitable candidates for ASCT (for example, on the basis of their individual risk–benefit balance).

After the cancers whose presence indicates AIDS, cHL is one of the most common malignancies in people with HIV infection and is almost always EBV-positive

The risk of cHL in individuals with HIV infection is highest under antiretroviral therapy, as HRS cells require immune cells for survival

OUTLOOK

The goal of HL therapy remains to maximize effectiveness while minimizing toxicity — an improved understanding of how tumour cells modulate the immune response could lead to the development of more-selective treatments that target specific signalling pathways. The integration of such new agents into current practice is not straightforward: trials are required to establish whether these drugs should replace or be added to current regimens, whether they should be used in primary settings or recurrence or refractory settings, and whether or not they should be reserved for patients with advanced-stage disease.

QUALITY OF LIFE

Fatigue is common in survivors of HL, who, less frequently, may experience treatment-associated infertility, sexual dysfunction and risk of second neoplasms. Althought some individuals may have a decline in cognitive performance that could potentially affect education and career prospects, most patients make excellent recoveries. Assessing the quality of life in elderly individuals is complicated by age-related decline in organ function and often by the presence of comorbidities and the possible additive toxicity of other necessary medications.

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