Journal of Hematology & Thromboembolic Diseases
ISSN: 2329-8790
OPEN ACCESS Freely available online
Opinion Article

Complications and Pathophysiology of Hodgkin Lymphoma

Mirza Mazharul*

Department of Medical Oncology, Dhaka Medical College, Dhaka, Bangladesh

DESCRIPTION

Lymphomas are cancers that develop in the body's lymphatic system. Hodgkin lymphoma is a type of B-cell lymphoma distinguished by the presence of a tumour cell known as the Reed-Sternberg cell. The absolute incidence has remained constant throughout time. Hodgkin lymphoma typically starts in lymph nodes and spreads to nearby lymph nodes, most frequently in the cervical area. The Hodgkin Lymphoma is most common in the young adults. A variant of Hodgkin lymphoma that affects children (0-14 years) is more common in underdeveloped nations. Hodgkin lymphoma has a male prevalence (male to female ratio of 1.5:1), although this male preponderance is not present in the nodular sclerosis subtype. Small numbers of tumors cells are typically present in neoplastic tissues. Hodgkin lymphoma is characterized by a sparse population of dispersed tumor cells that coexist with an abundant heterogeneous admixture of accessory, inflammatory, and non-neoplastic cells. Background cells, lymphocytes, histiocytes, plasma cells, eosinophil's, and neutrophils are all present because of the cytokines that the tumors cells release.

Pathophysiology

Both the conventional and Nodular Lymphocyte-Predominant Hodgkin lymphoma (NLPHL) subtypes of Hodgkin lymphoma have distinctive neoplastic cells. The Reed-Sternberg (RS) cell is a giant, multinucleated, neoplastic cell with two mirrored nuclei (owl eyes) that exists in a reactive cellular environment. The hallmark of classical HL is the RS cell. RS cells come from germinal centre B cells that have the IgH-variable region segment mutated. IL-5 and transforming growth factor-beta are two cytokines secreted by the RS. The RS cell is typically aneuploid and free of any recurring cytogenetic abnormalities. The majority of isolated RS cells show clonal Ig gene rearrangements. For RS cells, $CD3^+$ and $CD1^+$ immunohistochemistry stains are positive, whereas $CD2^+$ and $CD4^+$, which are only present in cancerous NLP-HL cells, are frequently negative. RS cells along with the $CD1^+$ and $CD3^+$ also expresses PAX5, $CD2^+$, HLA-DR, ICAM-1, Fascin, $CD9^+$ (apo-1/fas), TRAF1, $CD4^+$, and $CD8^+$ molecules. There are different types of RS cells, including as lacunar, mummified, and Hodgkin cells. Mononuclear RS-cell subtypes include Hodgkin cells.

Complications of hodgkin lymphoma

Dropped head syndrome: The dropped head syndrome is defined by extreme weakening of the neck extensor muscles, which prevents the neck from being extended and causes a posture with the head curved forward and a chin-on-chest deformity. Since then, high dose mantle field Radiation Therapy (RT) has been associated with the "dropped head syndrome," a chronic side effect.

The dropped head syndrome is the result of significant weakening and atrophy of the cervical and shoulder girdle muscles (splenius capitis, supraspinatus, infraspinatus, trapezius, sternocleidomastoid, and deltoid muscles). After high-dose mantle field radiation, the symptoms usually appear years later.

Brachial plexopathy: Several HL patients have reported developing acute brachial plexopathy when receiving high dosage mantle field RT. The patients who experienced painful, acute brachial plexus dysfunction (shoulder and arm pain followed by arm/hand sensory loss and lower motor neuron paralysis) within days to weeks after beginning RT, recovered fast. From a clinical standpoint, the illness is identical to acute idiopathic brachial neuritis. It has been hypothesised that radiotherapy may have caused an immune-mediated neuropathy, however the aetiology is unknown. Mantle RT has also been associated with late-delayed brachial plexus neuropathy, which, like other cancer-related radiation plexopathies, is painless and linked to myokymia.

CONCLUSION

The histologic characteristics, disease stage, and existence or absence of prognostic variables all play a significant role in Hodgkin lymphoma treatment. Treatment for Hodgkin lymphoma patients aims to cure the illness while managing both immediate and long-term side effects.

The Cotswold's modified Ann Arbor classification is one of numerous distinct staging categories for Hodgkin lymphoma.

Correspondence to: Mirza Mazharul, Department of Medical Oncology, Dhaka Medical College, Dhaka, Bangladesh, E-mail: Mazharulmirza73@gmail.com

Received: 01-Dec-2022, Manuscript No. JHTD-22-21070; **Editor assigned:** 05-Dec-2022, Pre Qc No. JHTD-22-21070 (PQ); **Reviewed:** 19-Dec-2022, Qc No. JHTD-22-21070; **Revised:** 26-Dec-2022, Manuscript No. JHTD-22-21070 (R); **Published:** 02-Jan-2023, DOI: 10.35248/2329-8790.22.10.515.

Citation: Mazharul M (2023) Complications and Pathophysiology of Hodgkin Lymphoma. J Hematol Thrombo Dis.10:515.

Patients are categorized into low- and high-risk groups according on their risk of recurrence. Positron Emission Tomography (PET) scan results are used to assess, treat, respond and improve treatment. Hodgkin lymphoma's initial therapy is dependent on subgroup therapy.