Hodgkin Lymphoma Pathophysiology

Lymphoma is a term used to describe lymphoid neoplasms that arise as discrete tissue masses, as opposed to widespread involvement of the bone marrow as in leukemias. Within the large group of lymphomas, Hodgkin’s lymphoma is distinguished from all other forms due to distinctive pathologic features. This cancer is one of the most common cancers of adolescents and young adults but also has a bimodal age distribution as disease incidence again increases with age. While non Hodgkin lymphomas (NHL) frequently occur at extranodal sites and spread in an unpredictable pattern, Hodgkin’s lymphoma is typically localized to a single lymph node or a chain of nodes and spreads first to contiguous lymphoid tissues. Hodgkin’s lymphoma also has distinctive morphologic features, particularly characterized by the presence of neoplastic giant cells called Reed-Sternberg cells. Reed-Sternberg cells release factors that induce the accumulation of reactive lymphocytes, macrophages, and granulocytes. These cells have a characteristic appearance with two nuclear lobes, large inclusion like nucleoli and abundant cytoplasm. These cells have an "owl’s eye" appearance and have a characteristic immunophenotype including CD15 and CD30, while negative for other B cell markers. In the majority of Hodgkin’s lymphomas, the neoplastic Reed-Sternberg cells are derived from germinal center B cells. Hodgkin’s lymphoma commonly presents as painless lymphadenopathy, often in the mediastinum. Patients with disseminated disease are more likely to have constitutional B symptoms such as fever, night sweats, and weight loss.



PLAY PICMONIC

Pathophysiology

Reed-Sternberg Cells
Red-stone-bird
Hodgkin lymphoma has distinctive morphologic features, particularly characterized by the presence of neoplastic giant cells called Reed-Sternberg cells. Reed-Sternberg cells release factors that induce the accumulation of reactive lymphocytes, macrophages, and granulocytes. These cells have a characteristic appearance with two nuclear lobes, large inclusion like nucleoli and abundant cytoplasm.

Binucleate
Bike-nucleus
Reed-Sternberg cells have a characteristic appearance with two nuclear lobes, large inclusion like nucleoli and abundant cytoplasm.

Owl's Eyes Appearance
Owl with giant eyes
Reed-Sternberg cells are commonly described as having an "owl's eye" appearance, due to the presence of two nuclear lobes with abundant cytoplasm.

CD 15 and CD 30
CD eyes that say 15 15 which equals 30
Reed-Sternberg cells have a characteristic immunophenotype including CD15 and CD30, while being negative for other B cell markers.

B Cell Origin
Basketball
In the majority of Hodgkin lymphomas, the neoplastic Reed-Sternberg cells are derived from germinal centers of B cells.

Bimodal Age Distribution
Graph with Bimodal-peaks
This cancer is one of the most common cancers of adolescents and young adults, but also has a bimodal age distribution as disease incidence again increases with age. The initial peak is found in young adults (age 15-34), while the second occurs is in older adults (>55 years old).

Sign up for FREE at picmonic.com