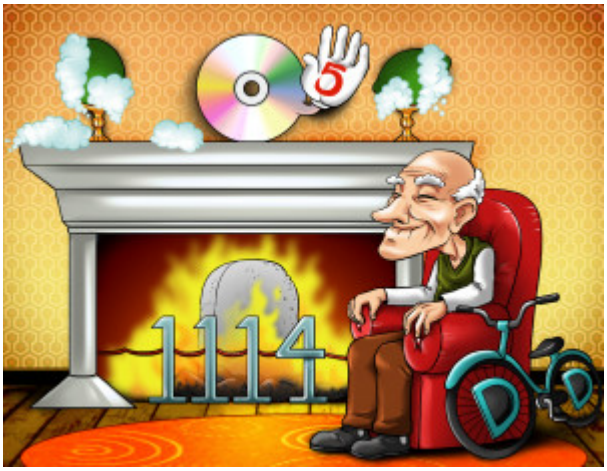
Mantle Cell Lymphoma

Mantle cell lymphoma is a relatively rare lymphoid neoplasm that makes up about 2.5% of non hodgkin's lymphomas in the United States. These cancers typically present in older adults, usually in the fifth to sixth decades of life and demonstrate a male predominance. As the name suggests, the tumor cells resemble normal mantle zone B cells that surround germinal center in lymph nodes. At the time of diagnosis, the majority of patients have generalized lymphadenopathy and 20 to 40% demonstrate peripheral blood involvement. Mantle cell lymphomas characteristically express high levels of cyclin D1 caused by an (11;14) translocation which involves the IgH locus on chromosome 14 and the cyclin D1 locus on chromosome 11. The resulting up-regulation of cyclin D1 promotes progression from G1 to the S phase during the cell cycle. Most tumors also express B cell markers including CD19 and CD20. It is also usually CD5+ positive, which helps to distinguish these cells from other B cell neoplasms like CLL. Mantle cell lymphomas have poor prognosis with median survival only 3-4 years. The lymphoma usually cannot be cured with conventional chemotherapy and most patients eventually succumb to organ dysfunction due to tumor infiltration.



PLAY PICMONIC

Older Males

Old-Grandpa

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Activation of Cyclin D Gene

Bicycle D's

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11 14 on fireplace gate

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CD5

CD (5) Hand

Most tumors express B cell markers including CD19 and CD20. It is also usually CD5 positive, and this immunophenotype is present in 80% of mantle cell lymphomas. Usually, CD5 is a protein used to identify T-cell neoplasms, and is also present in CLL and hairy cell leukemia.

Poor Prognosis

Gravestone

The CD5 marker typically indicates the lymphoma is more aggressive. Mantle cell lymphomas have a poor prognosis with median survival only 3-4 years. The lymphoma usually cannot be cured with conventional chemotherapy and most patients eventually succumb to organ dysfunction due to tumor infiltration.