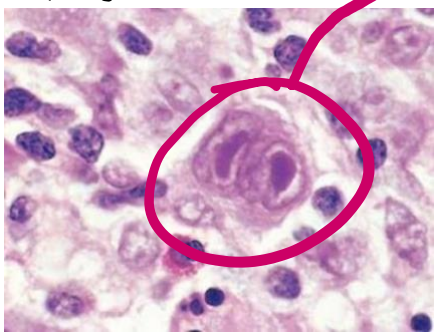
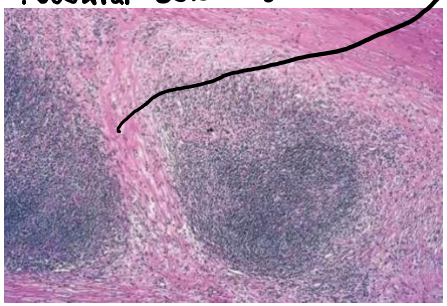
	Classical Hodgkin lymphoma				**Non classical Hodgkin lymphoma**
	Nodular sclerosis HL	Mixed cellularity HL	Lymphocyte-rich HL	Lymphocyte-depleted HL	Nodular lymphocyte-predominant HL (Predominant doesn't equal rich)
Common in	Children and young adults (most common type of classical HLs)	old people	Rare	Rare	-
Reed-Sternberg cells (CD30+ , CD15+ cells) features	clear cytoplasm, as a retraction artifact from formalin, called Lacunar cells	Numerous RS cells (but it is considered few in comparison to the background cells)	-	-	-
Other malignant cells than RS cells	-	-	-	-	lymphohistiocyte (L&H) variant RS cell, or simply LP cells (popcorn cells): Giant cell with multilobated vesicular nuclear lobes and small blue nucleoli
Pathogenesis	1. secrete IL-5, chemoattractant for eosinophils, causing eosinophilia in the blood in severe cases. 2. secrete IL-13 and transforming growth-B (TGF-ß) which activates other RS cells. 3. Express programmed death (PD) ligands which antagonize T- cell response, escaping immune surveillance, In therapy now we use an antibody that binds these PD ligands so the lymphocytes can act as natural fighters of the cancer				
Antigenic markers of cells of the other malignant cells	-	-	-	-	Normal B-cell markers (CD45, CD20), negative for CD30 and CD15
Origin of malignant cells	Neoplastic cells originate from germinal center B-cells but they are VERY different from them.				
Special features of the neoplasm tissue	1. Thick fibrous bands separating nodules of lymphocytes. 2. normal inflammatory cells make the bulk of the tumor [WBCs]	1. Lacks fibrous bands. 2. normal inflammatory cells make the bulk of the tumor [WBCs]	we see lymphocytes with the giant cells	we see histiocytes in large number	Background of lymphocytes, arranged in nodules but no fibrous septa, very large follicles filling the lymph node so it gives the architecture of a lobule.
Background cells	-	mixed neutrophils, eosinophils, lymphocytes, plasma cells and histiocytes	-	-	lymphocytes, arranged in nodules
Prognosis	Generally good	Generally good	Generally good	Generally good	Excellent prognosis (better than the classical ones)
Association with other conditions	Frequent association with EBV	EBV infection (association in high percentage) more than other HLs	Frequent association with EBV	Frequent association with EBV	Frequent association with EBV
Treatment	it wasn't until the 70s that they found a regiment of chemo and radio therapy for the treatment of HL with a good response rate.				

RS cells



Reed-Sternberg cells (RS): bi or multi-nucleated giant cell, prominent nucleoli that's the size of a whole normal cell! abundant cytoplasm with eosinophilic nuclei. Compare the size with cells around it.

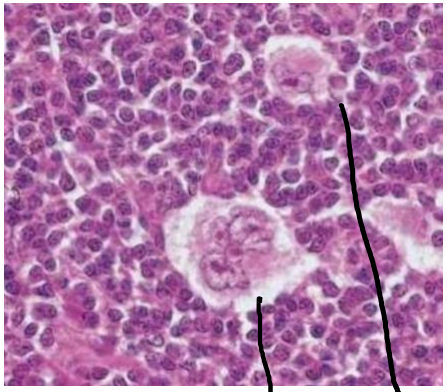
Nodular sclerosis



fibrous band

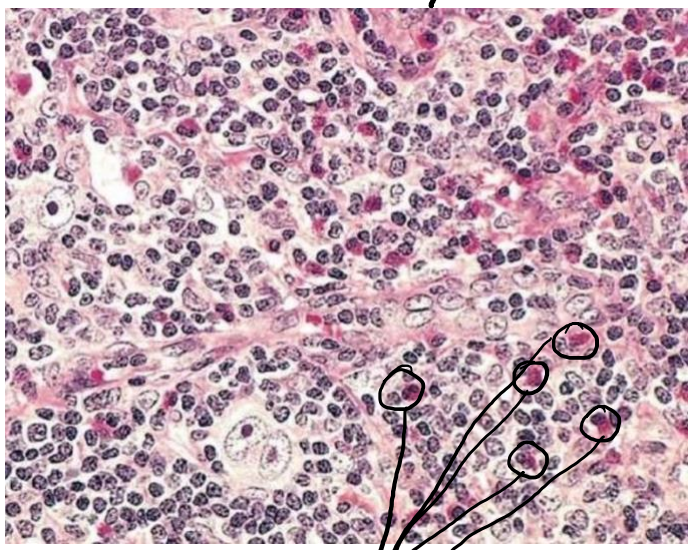
Morphology: the lymph node has nodules with dense sclerosis (fibrous bands) that separates these nodules from each other
Why? The neoplastic cells activate fibroblasts to produce collagen which gives this architecture at the end.

Nodular sclerosis



lacunar cells

Mixed cellularity

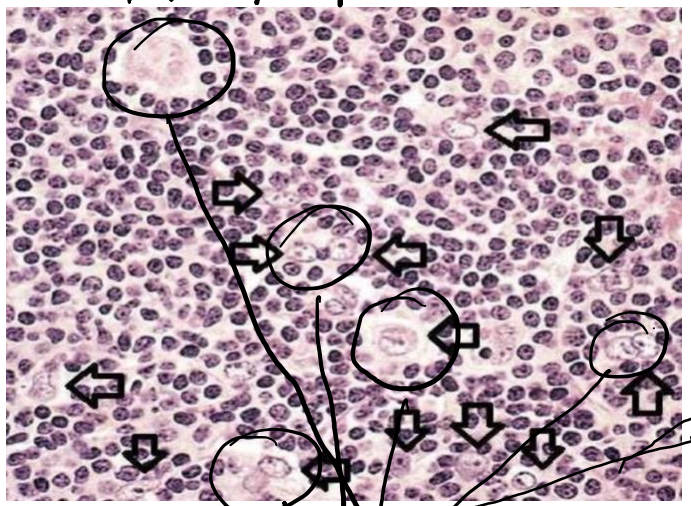


Red eosinophils

Morphology: few neoplastic cells with a background filled with lymphocytes and reddish eosinophils.
Lacks fibrous bands, diffuse area with numerous RS cells with a background of inflammatory cells [mixed neutrophils, eosinophils, lymphocytes, plasma cells and histiocytes].

Reason for eosinophilia? RS cells produce cytokines that bring all these inflammatory cells.

lymphocyte - predominant



popcorn cells

Cells Resemble popcorn (popcorn cells) › Giant cell with multi-lobulated (not multi
nucleated like RS) vesicular (which means
white nucleus and small blue nucleoli).