Hodgkin Lymphoma

B-cell neoplasms
>95% cellular milieu is normal

Classical

Nodular Sclerosis
70% of cases
nodules of tumor separated by bands of fibrosis
CD15+
CD30+
EBV+ (usually)
usually stage I or II
usually mediastinal involvement
good prognosis

Lymphocyte Rich
5% of cases
classic Reed-Sternberg cells
↑ mature lymphocytes
CD15+
CD30+
M>F
best prognosis cHD

Lymphocyte Depleted
1% of cases
↓ lymphocytes
↑ Reed-Sternberg cells + variants
CD15+
CD30+
EBV+ (90%)
↑ stage III + IV + "B" Sx
older, HIV
poor prognosis

Mixed Cellularity
20-25 % of cases
Reed-Sternberg cells, eos., + plasma cells
foci of necrosis + disordered fibrosis
CD15+
CD30+
EBV+ (70%)
>50% stage III or IV
M>F

Nodular Lymphocyte Predominant HL (NLPHL)

5% of cases
popcorn / L+H cells, mature lymphocytes
CD20+
CD30-
usually stage I or II
usually cervical node involvement
M>F
good prognosis

Non-Hodgkin Lymphomas

Indolent

T-cell

Mycosis fungoides
patch, plaque, or tumor stages
Sezary syndrome
cerebriform nuclei
CD4+ T-cells

B-cell

SLL/CLL
elderly
immune dysfx (hypogammaglobulinemia, AIHA) cytopenias
small lymphs w/ "soccer ball" chromatin
prolymphocytes in proliferation centers
lack of somatic IgH hypermutation
p53 deletion
Richter's transformation

Follicular
germinal center B-cells
↑ stage w/ LAD + BM involvement
nodular
t(14;18) → ↑BCL2 → ↓ apoptosis
transformation to DLBCL

MALT
extranodal + localized
GI tract/stomach
H. pylori → chronic inflammatory response or autoimmune stimulation
↓ abx
"fried egg" lymphocytes form lymphoepithelial lesions
reactive germinal centers
↑ plasma cells

Aggressive

T-cell

Peripheral T-Cell Lymphoma, NOS
wastebasket of aggressive mature T-cell neoplasms
LAD +/- B sx
T-cells may recruit eos., histiocytes

Anaplastic Large (ALTL) T-Cell Lymphoma
aggressive but curable
children/young adults @ ↑ stage
nodal + extranodal
"hallmark cells" kidney-shaped nucleus
CD30+ T-cells
t(2;5) → ↑ALK1 → ↑ proliferation
(ALK1 = fusion tyrosine kinase)

Extranodal NK/T-Cell
adults of Asia + Central/South Amer.
mid-face mass (nasopharynx, palate)
vasculocentric w/ necrosis
EBV associated

Adult T-Cell Leukemia/Lymphoma (ATLL)
adults in Carribean, Japan, Africa
↑ stage w/ rash, hypercalcemia, +/- bone lesions, LAD, HSM, lymphocytosis
"flower cells"
CD4+ T-cells
HTLV-1 associated

B-cell

Mantle Cell (MCL)
naive mantle zone B-cells
nodal, splenic, or GI involvement
lymphomatous polyposis
variable morphology
t(11;14) → ↑ cyclin D1 → ↑ proliferation

Diffuse Large B-Cell (BLBCL)
commonest NW
any age
B sx, nodal or extranodal
primary mediastinal – young women, SVC syndrome, good prognosis
primary CNS – elderly/immunosuppressed, poor prognosis
variable morphology
transformation from lower grade lymphoma (FL) OR oncogenic viruses (EBV + HHV-8) OR de novo mutation in BCL6 + BCL2
germinal center type → better prognosis
non-germinal center type → worse prognosis

Burkitt (BL)
children/young adults/immunosuppressed
extranodal
fastest growing human tumor proliferation index >95%
"starry sky" appearance
t(8;14), t(2;8), or t(8;22) → ↑MYC → ↑proliferation
endemic form → EBV → jaw involvement
sporadic form → ileocecal or pelvic mass
HIV associated form

Lymphoblastic Lymphoma
precursor T or B cells
children/adolescents
T-LBL → mediastinal mass in adolescent males
NOTCH1 mutation → T-LBL
expression of TDT (marker of immaturity)