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| **Lymphoma** | **Description** |
| **Hodgkin** | Localized nodes, **contiguous spread**  **Reed Sternberg cells**: binucleate, CD15+/CD30+  Assoc. w/ EBV  **B symptoms**: fever, night sweats, weight loss |
| **Burkitt** | Associated w/ **EBV**  **t(8;14), c-myc and heavy chain Ig**  Endemic: Africa, jaw lesion  Sporadic: pelvic/abdominal lesion  **Starry sky**: macrophages in sheets of lymphocytes |
| **Diffuse large B-cell** | **Most common non-Hodgkin in adults** |
| **Follicular** | **Indolent** lymphoma  **t(14;18), bcl-2 and heavy chain Ig**  Painless lymphadenopathy  **Disorganized follicular structure** |
| **Mantle cell** | **Very aggressive**, presents late stage  **t(11;14), cyclin D1 and heavy chain Ig** |
| **Primary CNS** | **AIDS-defining illness**  Confusion, memory loss, seizures  Mass lesion, **distinguish from T. gondii** w/ CSF analysis |
| **Adult T-cell** | **HTLV**, associated w/ IV drugs  Japan, West Africa, Caribbean  Cutaneous lesions, **lytic bone lesions, hypercalcemia** |
| **Mycosis fungoides**  **(Sezary syndrome)** | **Cutaneous**: skin patches/plaques  Progresses to Sezary (T-cell leukemia)  CD4+ cells w/ **cerebriform nuclei** |

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| **Leukemia** | **Description** |
| **Acute Lymphoblastic** | **Most frequent in children**, worse prognosis in adults  **T-cell: mediastinal mass**, assoc. w/ Down syndrome  Markers: **Tdt +,** B-cells **CD10+**  **t(12;21) = better prognosis**  May spread to CNS, testes (prophylaxis) |
| **Chronic Lymphocytic** | **Most common adult leukemia** (age >60yo)  **B-cell** neoplasm w/ **CD20+, CD5+** (t-cell marker)  Smear shows **smudge cells**  Causes autoimmune hemolytic anemia  **Richter**: transforms to aggressive lymphoma, usually DLBCL |
| **Hairy cell** | Mature B-cell tumor, **massive splenomegaly**  **TRAP +** cells w/ **hair-like projections**  Marrow fibrosis, **dry marrow tap**  Treat w/ cladribine (CDA-2), pentostatin |
| **Acute Myelocytic** | **Myeloperoxidase +, Auer rods**  Alkylating chemo, radiation, myeloproliferatives, Down syndrome  **APL: t(15;17), treat w/ all-trans retinoic acid**  May present w/ DIC |
| **Chronic Myelocytic** | **Philadelphia chromosome, t(9;22), bcr-abl**  Dysregulated granulocyte production, splenomegaly  Transform to AML, ALL (blast crisis)  **Decr. leukocyte alkaline phosphatase (LAP)**  (Incr. in leukemoid reaction)  Treat w/ bcr-abl tyrosine kinase inhibitors |

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| **Multiple myeloma** | Monoclonal plasma cells making **IgG/IgA**  Most common primary bone tumor  **Hypercalcemia, renal issues, anemia, lytic bone lesions**  Infections, **primary amyloidosis**, **rouleaux** formation  **Bence Jones protein** (Ig light chains in urine)  **M spike** on serum protein electrophoresis |
| **MGUS** | Monoclonal Gammopathy of Undetermined Significance  **Asymptomatic** monoclonal plasma cells  Chance of multiple myeloma at 1-2% per year |
| **Waldenstrom**  **Macroglobulinemia** | Monoclonal plasma cells making **IgM**  **Hyperviscous state** (thrombosis, Raynaud) |
| **Myelodysplastic syndrome** | **Defect in cell maturation** of all nonlymphoid lineages  Ineffective mature cell production  **Risk of becoming AML**  **Pseudo-Pelger-Huet**: bilobed neutrophils post-chemo |
| **Langerhans cell**  **Histiocytosis** | **Functionally immature dendritic cells**  Lytic bone lesions, skin rash, recurrent otitis media w/ mass  **S-100 +, CD1a +, Birbeck granules** (tennis racket-shaped) |
| **Polycythemia vera** | **Primary polycythemia, low EPO** (negative feedback)  **Itching after showers, responds to aspirin**  **Erythromelalgia**: burning pain, red-blue coloration  (episodic blood clots in extremities) |
| **Essential thrombocythemia** | **Megakaryocyte proliferation**  Bleeding and thrombosis  **Incr. platelets, may be large, abnormal**  Erythromelalgia possible |
| **Myelofibrosis** | **Incr. fibroblast activity, marrow fibrosis**  **Massive splenomegaly, teardrop RBCs** |