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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 lesionSporadic: 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, seizuresMass lesion, **distinguish from T. gondii** w/ CSF analysis |
| **Adult T-cell** | **HTLV**, associated w/ IV drugsJapan, West Africa, CaribbeanCutaneous lesions, **lytic bone lesions, hypercalcemia** |
| **Mycosis fungoides****(Sezary syndrome)** | **Cutaneous**: skin patches/plaquesProgresses 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 syndromeMarkers: **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, splenomegalyTransform 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 cellsChance 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 lineagesIneffective 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** |