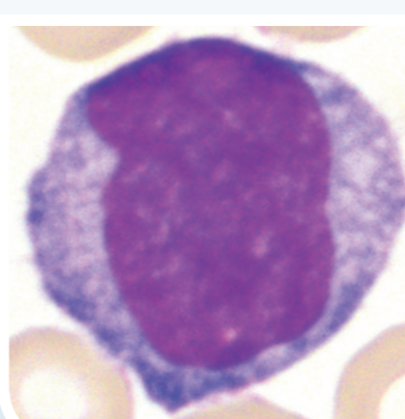
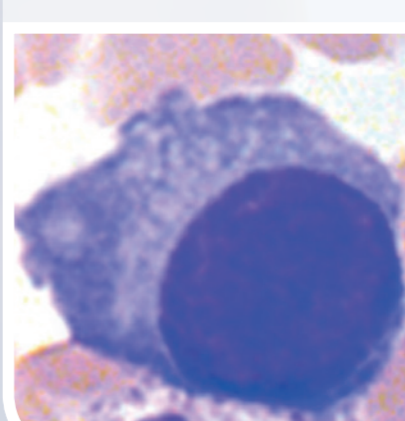
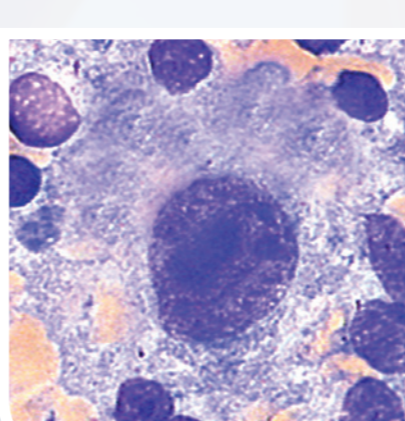


Lymphatic Cells

<p>Normal lymphocyte</p>  <p>Nuclear-cytoplasmic ratio high Nucleus shape oval Nuclear chromatin heterogeneous, clumped Cytoplasm narrow, basophilic</p>	<p>Prolymphocyte</p>  <p>Nuclear-cytoplasmic ratio medium/high Nucleus shape round/oval Nuclear chromatin intermediate, always with nucleolus Cytoplasm lightly basophilic</p>	<p>Binucleated lymphocyte</p>  <p>Nuclear-cytoplasmic ratio high Nucleus shape binucleated Nuclear chromatin clumped Cytoplasm narrow, basophilic</p>	<p>Villous lymphocyte</p>  <p>Nuclear-cytoplasmic ratio medium/high Nucleus shape round/oval Nuclear chromatin condensed Cytoplasm lightly basophilic, short villi, unipolar</p>
<p>Lymphoid cell</p>  <p>Nuclear-cytoplasmic ratio medium Nucleus shape round/oval Nuclear chromatin intermediate Cytoplasm lightly basophilic, diffluent, often around red blood cells</p>	<p>Large granulated lymphocyte (LGL)</p>  <p>Nuclear-cytoplasmic ratio medium Nucleus shape oval Nuclear chromatin condensed Cytoplasm lightly basophilic, azurophilic granules</p>	<p>Lymphoplasmocytic cell</p>  <p>Nuclear-cytoplasmic ratio medium Nucleus shape oval Nuclear chromatin condensed Cytoplasm abundant, stronger basophilic</p>	<p>Plasma cell</p>  <p>Nuclear-cytoplasmic ratio low/medium Nucleus shape round/oval, eccentric localisation Nuclear chromatin clumped Cytoplasm deeply basophilic, perinuclear clear zone (Golgi apparatus)</p>
<p>Monocytoid lymphocyte</p>  <p>Nuclear-cytoplasmic ratio medium Nucleus shape lobed, indented Nuclear chromatin intermediate Cytoplasm abundant, moderately basophilic</p>	<p>Hairy cell</p>  <p>Nuclear-cytoplasmic ratio low/medium Nucleus shape oval/kidney-shaped Nuclear chromatin intermediate Cytoplasm lightly basophilic, circular hairy projections</p>	<p>Centrocyte</p>  <p>Nuclear-cytoplasmic ratio medium/high Nucleus shape round/oval, notched Nuclear chromatin condensed Cytoplasm basophilic, sparse</p>	<p>Centroblast</p>  <p>Nuclear-cytoplasmic ratio medium/variable Nucleus shape round/oval Nuclear chromatin fine, nucleoli at nuclear membrane Cytoplasm moderately basophilic</p>
<p>T lymphocyte</p>  <p>Nuclear-cytoplasmic ratio high Nucleus shape irregular, lobed Nuclear chromatin clumped Cytoplasm narrow, basophilic</p>	<p>Sézary cell</p>  <p>Nuclear-cytoplasmic ratio medium Nucleus shape cerebriform Nuclear chromatin intermediate Cytoplasm basophilic</p>	<p>Activated lymphocyte</p>  <p>Nuclear-cytoplasmic ratio medium/variable Nucleus shape oval-indentated Nuclear chromatin intermediate Cytoplasm light, basophilic rim</p>	<p>Immunoblast</p>  <p>Nuclear-cytoplasmic ratio medium/variable Nucleus shape round/oval Nuclear chromatin fine, central nucleoli Cytoplasm moderately to deeply basophilic</p>
<p>Highly malignant lymphoma cell</p>  <p>Nuclear-cytoplasmic ratio medium/variable Nucleus shape round/oval Nuclear chromatin uniformly dense Cytoplasm moderately to deeply basophilic</p>	<p>Lymphoblast</p>  <p>Nuclear-cytoplasmic ratio high Nucleus shape round/oval Nuclear chromatin smooth, fine Cytoplasm basophilic, variable</p>	<p>Lymphoblast with L3 morphology</p>  <p>Nuclear-cytoplasmic ratio high Nucleus shape round/oval Nuclear chromatin smooth, fine Cytoplasm strongly basophilic, vacuoles</p>	<p>Myeloma cell</p>  <p>Nuclear-cytoplasmic ratio medium Nucleus shape like plasma cell Nuclear chromatin intermediate, with or without nucleoli Cytoplasm like plasma cell, Golgi zone may be absent</p>
<p>Mott cell</p>  <p>Nuclear-cytoplasmic ratio low/medium Nucleus shape round/oval, eccentric localisation Nuclear chromatin clumped Cytoplasm basophilic, light blue clustered immunoglobulin inclusions (Russell bodies)</p>	<p>Lymphocyte/plasma cell with Dutcher bodies</p>  <p>Nuclear-cytoplasmic ratio low/medium Nucleus shape round/oval Nuclear chromatin condensed, one to several intranuclear light blue immunoglobulin inclusions (Dutcher bodies) Cytoplasm like plasma cell or lymphoplasmocytic cell</p>	<p>Hodgkin cell</p>  <p>Nuclear-cytoplasmic ratio medium up to < 50 % Nucleus shape single nucleus in a large cell Nuclear chromatin intermediate, large nucleolus Cytoplasm lightly basophilic</p>	<p>Sternberg-Reed cell</p>  <p>Nuclear-cytoplasmic ratio medium up to < 50 % Nucleus shape like Hodgkin cell but multiple nuclei in a very large cell Nuclear chromatin reticular Cytoplasm lightly to moderately basophilic</p>

Lymphocytosis, reactive, neoplastic

A variety of different types of lymphocytes with the presence of lymphoplasmocytic cells and activated lymphocytes suggests a reactive cause. In contrast, a clonal, neoplastic cell population is predominantly monomorphic. In children and young adults, a lymphocytosis is frequently due to an infection. In elderly people, a neoplastic aetiology is more likely.

B lymphocyte, T lymphocyte, cytology

With the exception of NK cells (natural killer cells) the lineage of lymphocytes cannot be reliably determined with a Pappenheim stain, but some observations can be made. B lymphocytes, for example, do not show azurophilic granulation. T lymphocytes usually have an irregular nuclear shape and may show fine-grained azurophilic granules.

Lymphoma, cytology

Indolent lymphomas are morphologically very heterogeneous, but the cells have one thing in common: The nuclear chromatin is stained unevenly; apart from clumped, condensed looking, dark areas there are light areas with low chromatin density. Nucleoli may be present.

Aggressive lymphomas: medium to large cells, chromatin evenly distributed, no clumping. Presence of nucleoli is frequent. Cytoplasm narrow, strongly basophilic.