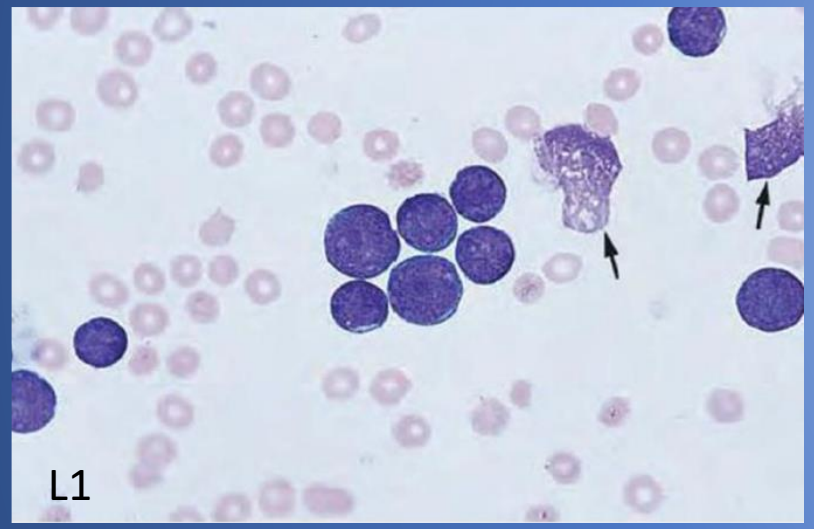
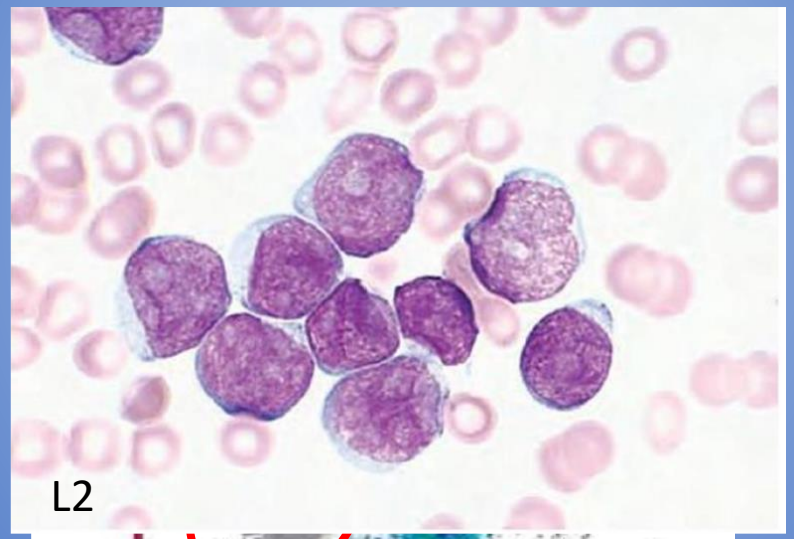
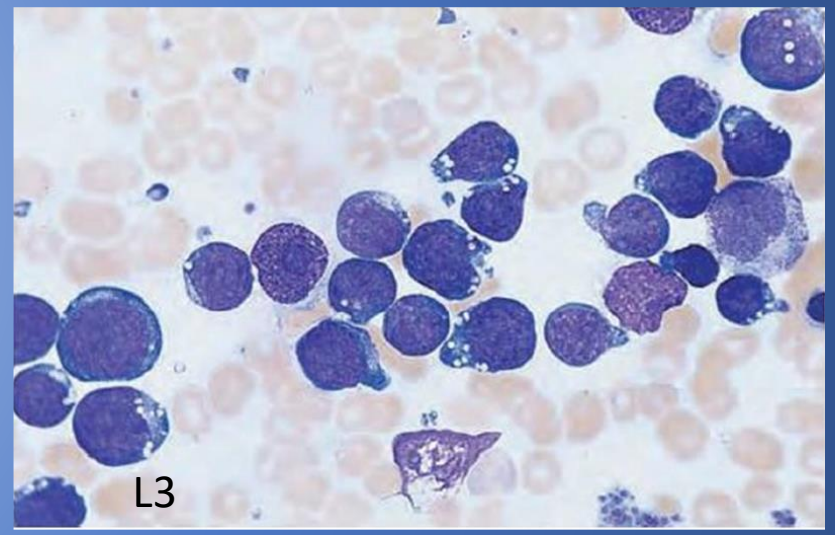
Οξεία Λεμφοβλαστική Λευχαιμία



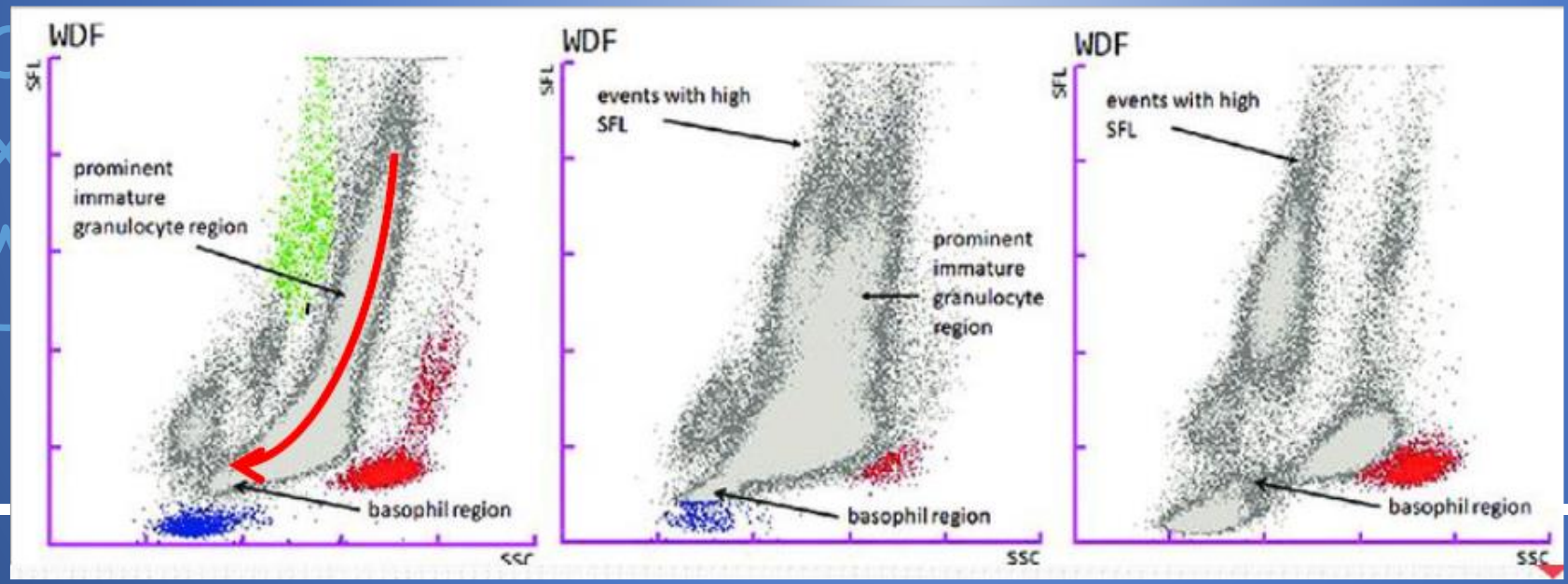




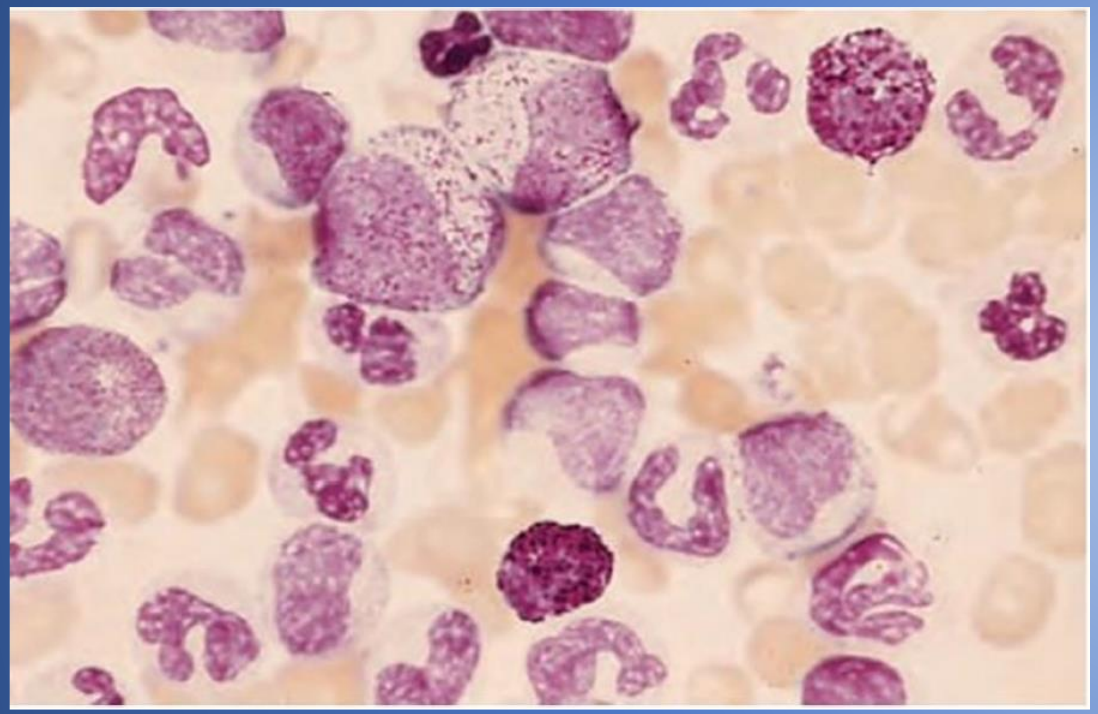
Μορφολογία στις Αιματολογικές Κακοήθειες

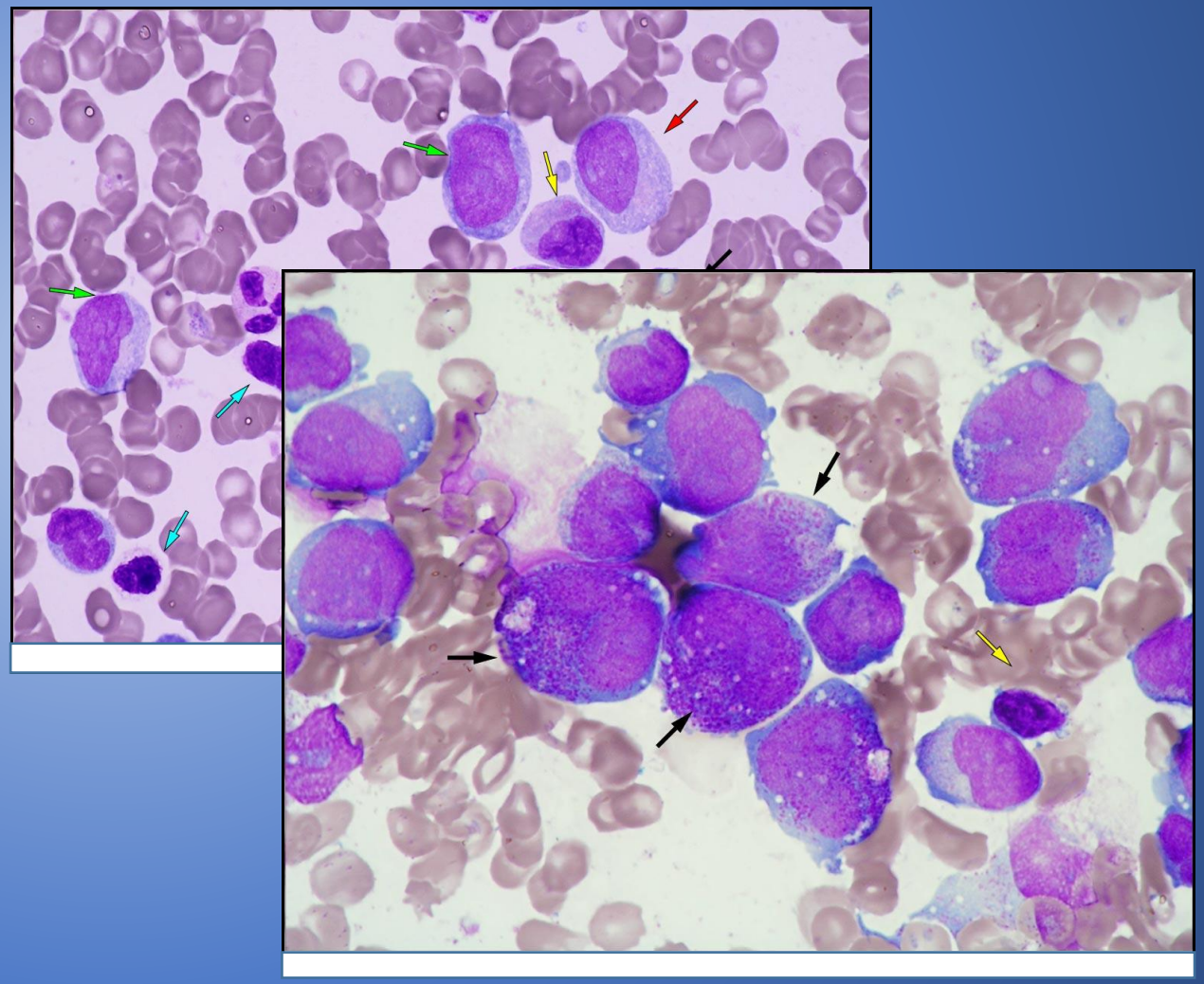
Νοσολογικές Οντότητες

- ✓Οξεία Μυελογενής Λευχαιμία
- ✓**Χρόνια Μυελογενής Λευχαιμία**
- ✓C
- ✓X
- ✓Λ
- ✓T



Χρόνια Μυελογενής Λευχαιμία

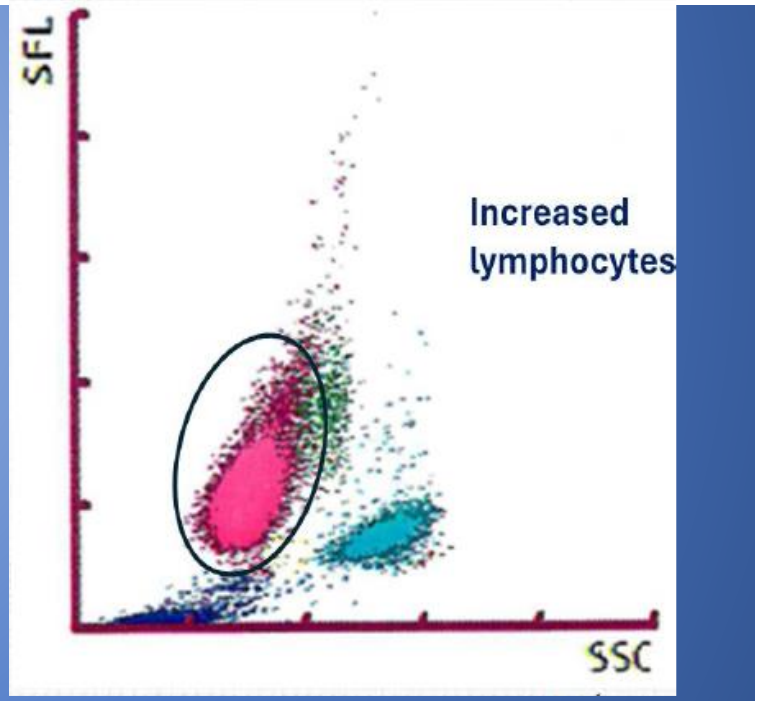




Μορφολογία στις Αιματολογικές Κακοήθειες

Νοσολογικές Οντότητες

- ✓Οξεία Μυελογενής Λευχαιμία
- ✓Χρόνια Μυελογενής Λευχαιμία
- ✓Οξεία Λεμφοβλαστική Λευχαιμία
- ✓**Χρόνια Λεμφοκυτταρική Λευχαιμία**
- ✓Λέμφωμα
- ✓Πολλαπλούν Μυέλωμα



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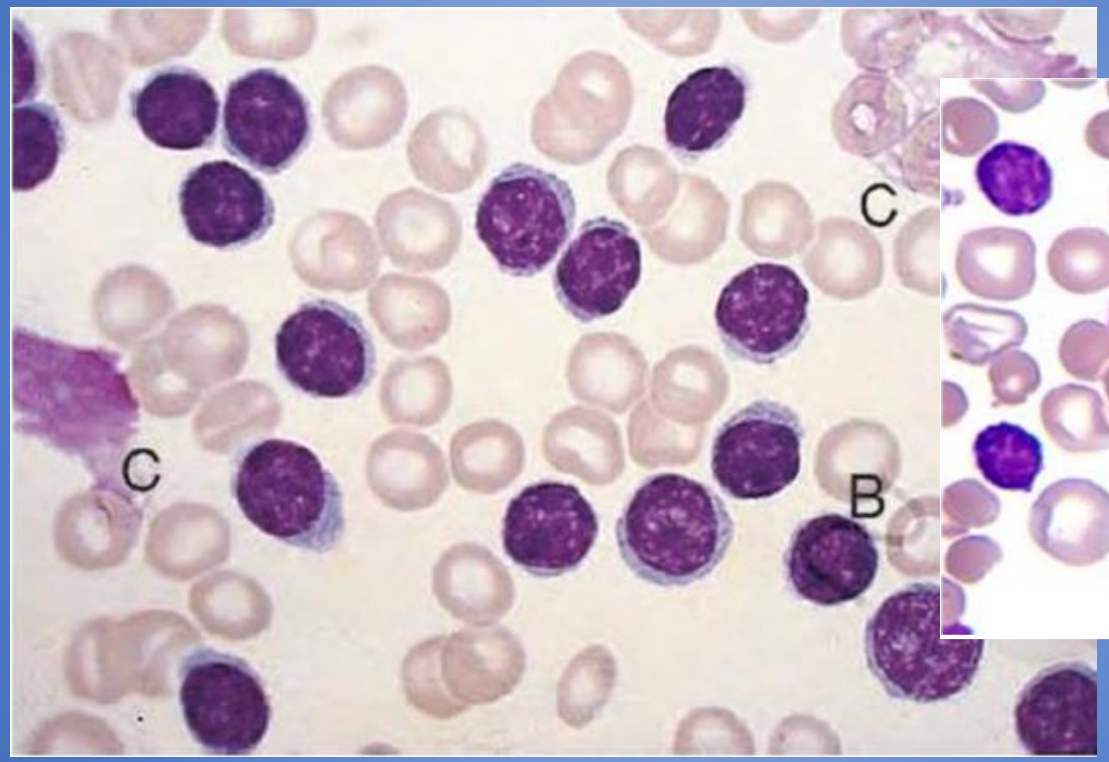
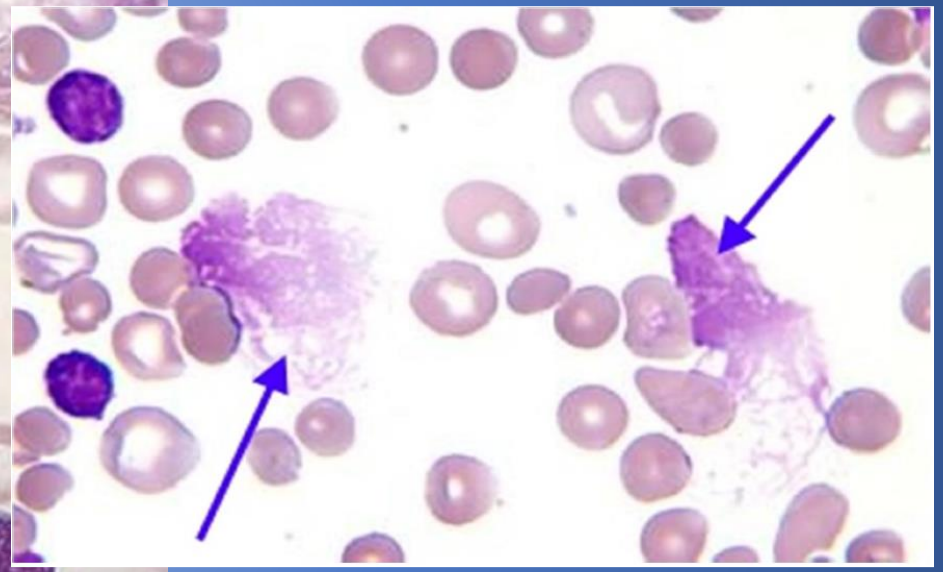
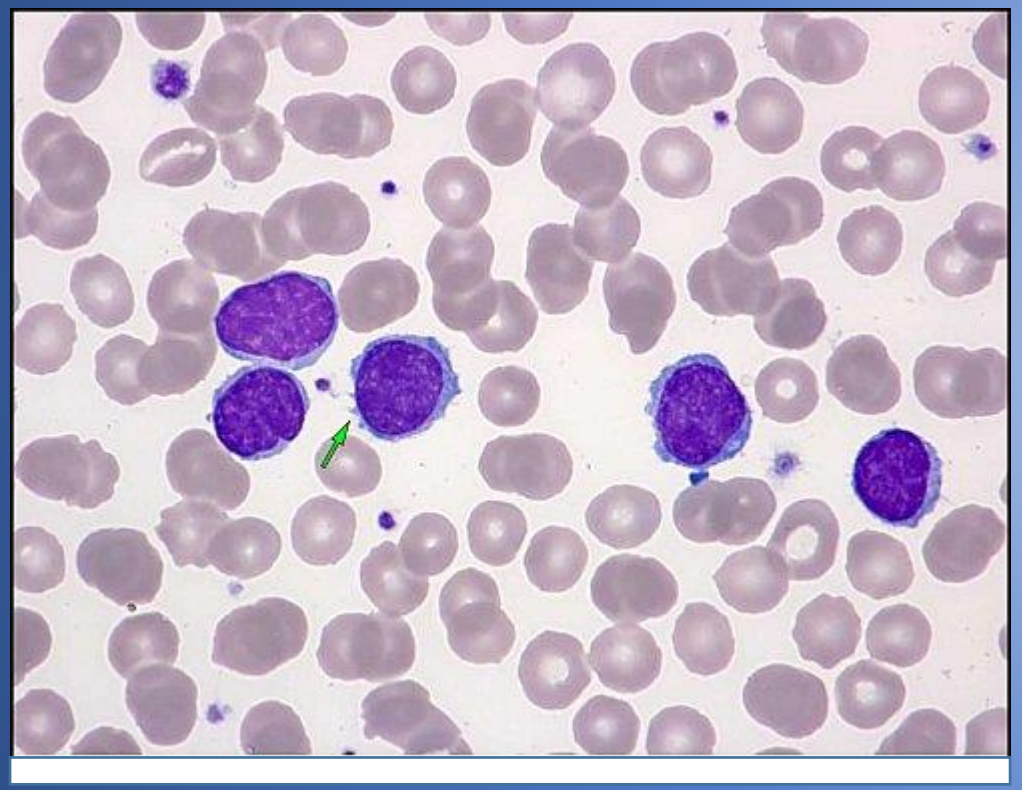




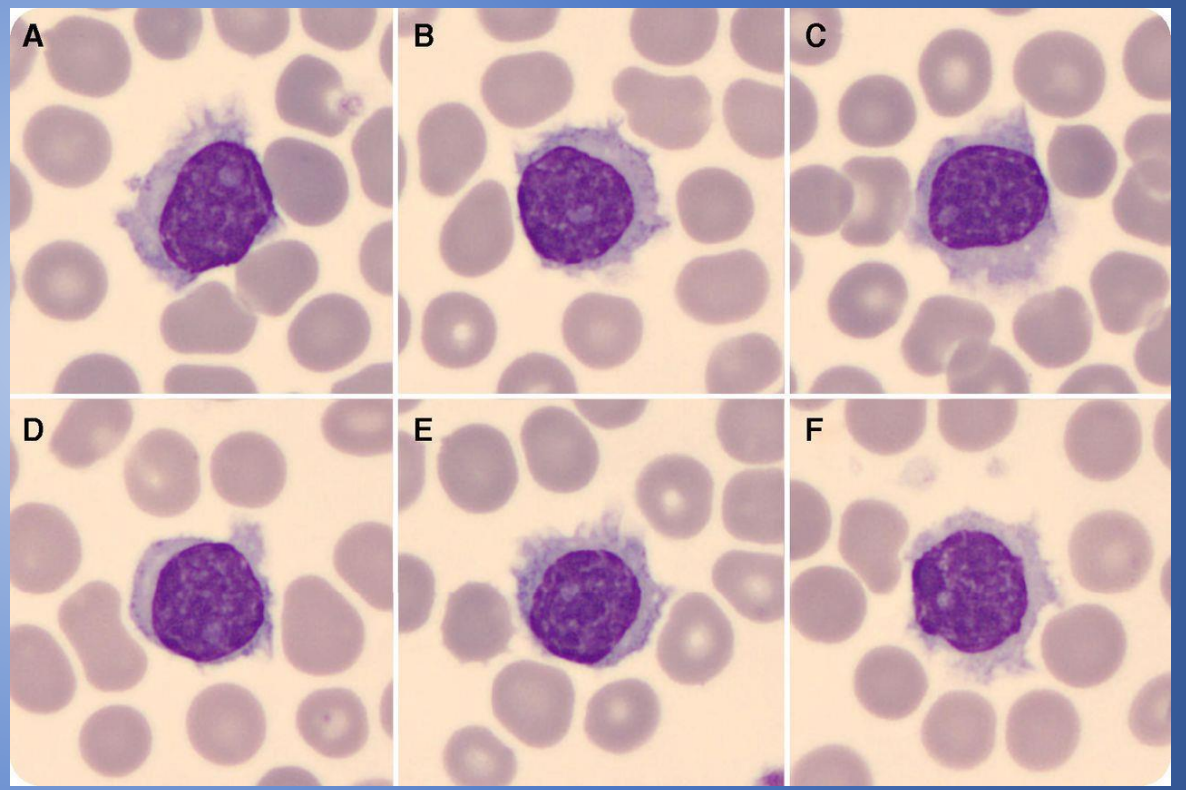
Μορφολογία στις Αιματολογικές Κακοήθειες
Νοσολογικές Οντότητες

- ✓Οξεία Μυελογενής Λευχαιμία
- ✓Χρόνια Μυελογενής Λευχαιμία
- ✓Οξεία Λεμφοβλαστική Λευχαιμία
- ✓Χρόνια Λεμφοκυτταρική Λευχαιμία
- ✓**Λέμφωμα**
- ✓Πολλαπλούν Μυέλωμα

Λέμφωμα

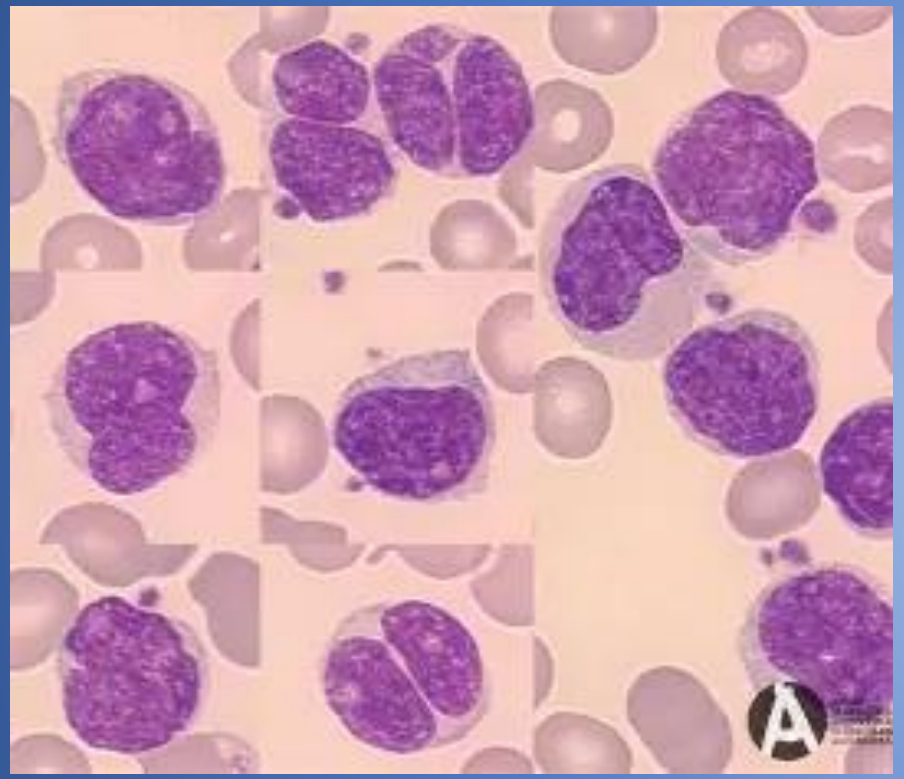


Λέμφωμα Οριακής Ζώνης

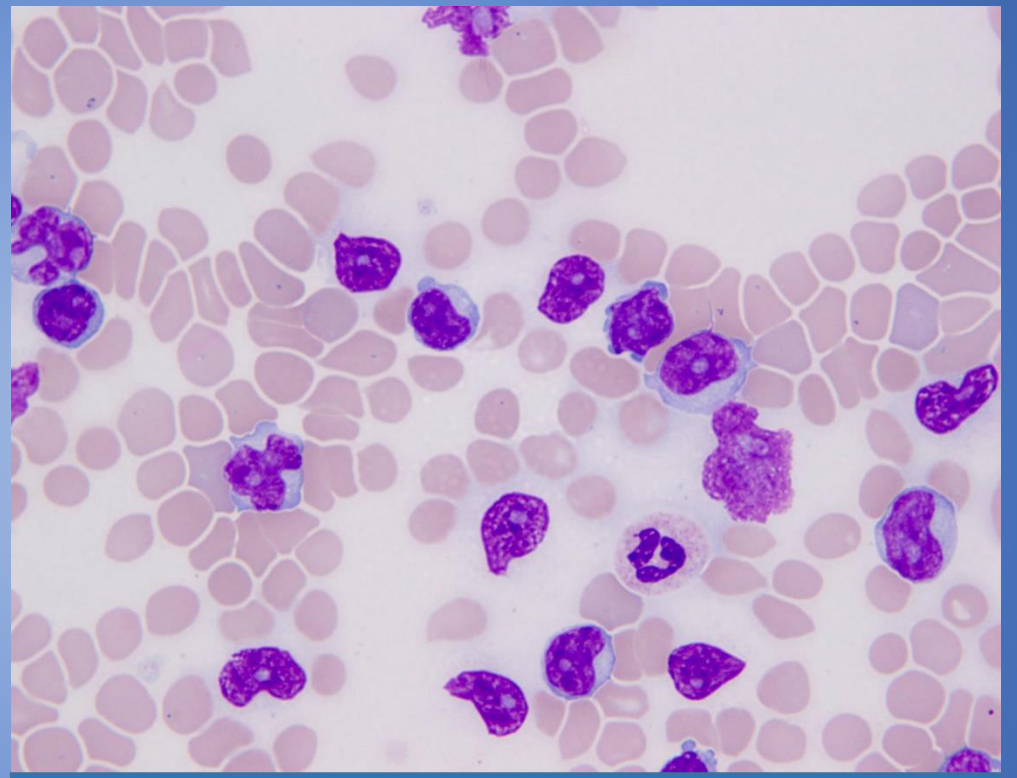


Λευχαιμία εκ τριχωτών κυττάρων

Λέμφωμα

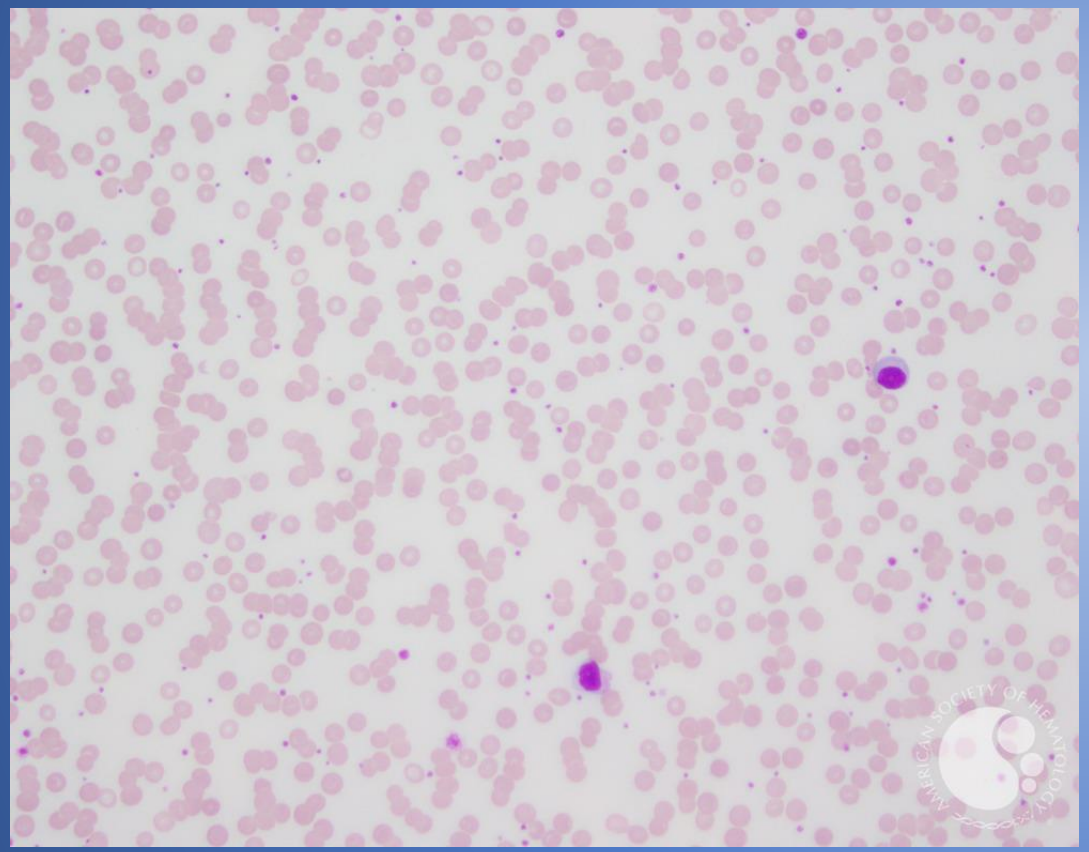


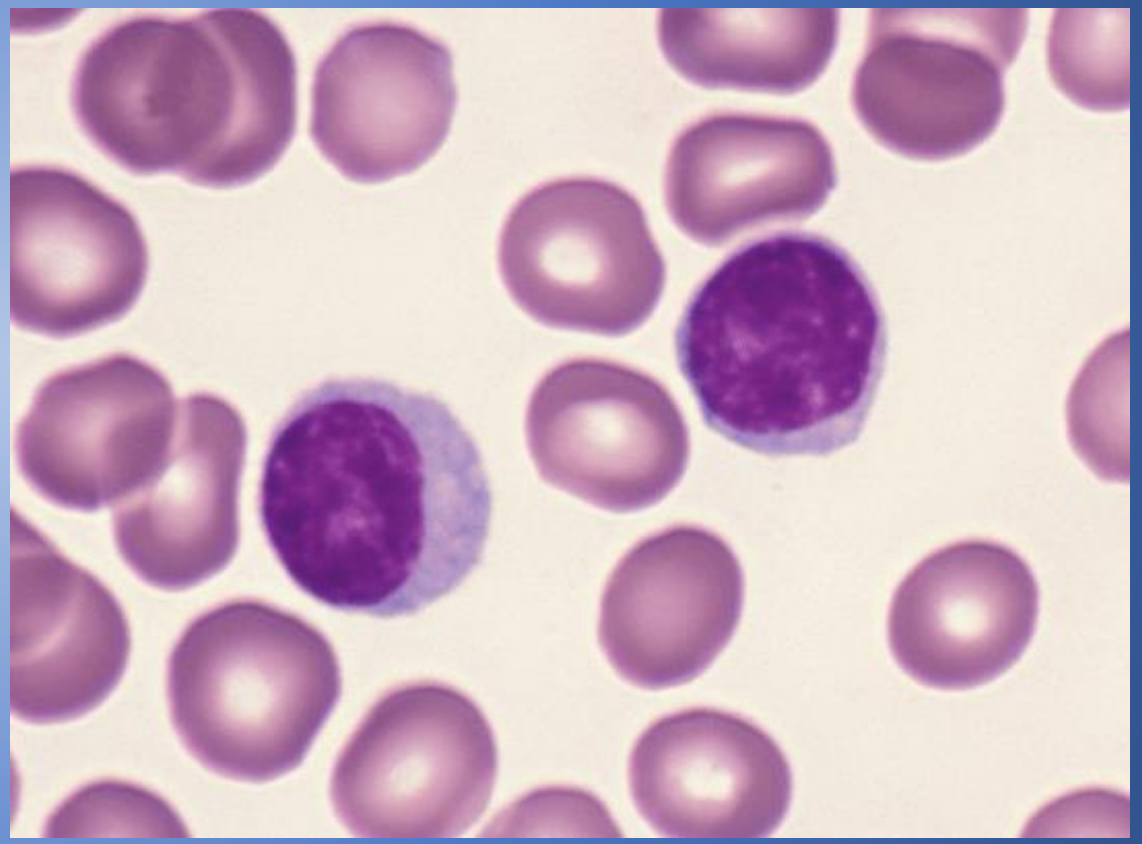
Λέμφωμα από Κύτταρα Μανδύα



Τ-κυτταρικό Λέμφωμα

Λέμφωμα



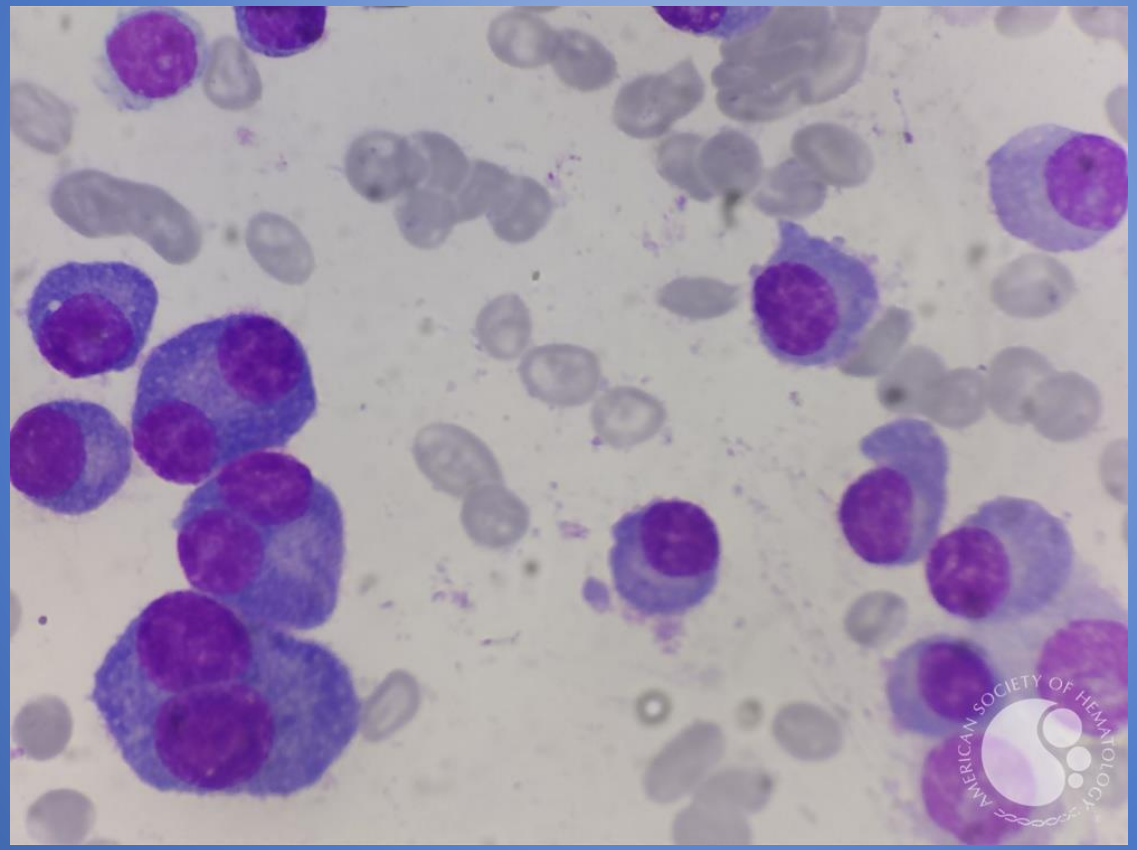


Λεμφοπλασματοκυτταρικό Λέμφωμα (Μακροσφαιριναιμία Waldenstrom)

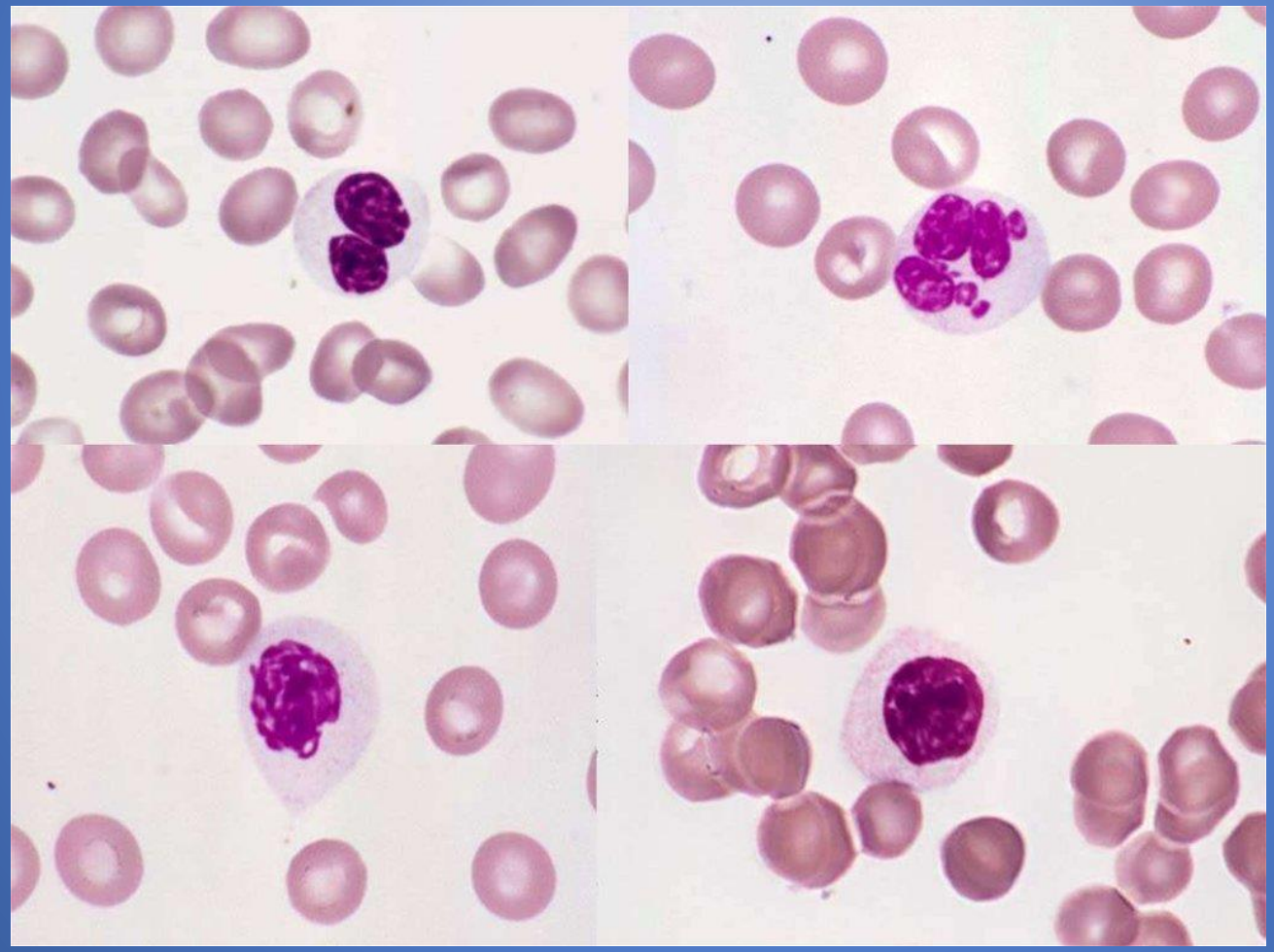
Μορφολογία στις Αιματολογικές Κακοήθειες
Νοσολογικές Οντότητες

- ✓Οξεία Μυελογενής Λευχαιμία
- ✓Χρόνια Μυελογενής Λευχαιμία
- ✓Οξεία Λεμφοβλαστική Λευχαιμία
- ✓Χρόνια Λεμφοκυτταρική Λευχαιμία
- ✓Λέμφωμα
- ✓**Πολλαπλούν Μυέλωμα**

Πλασματοκύτταρα

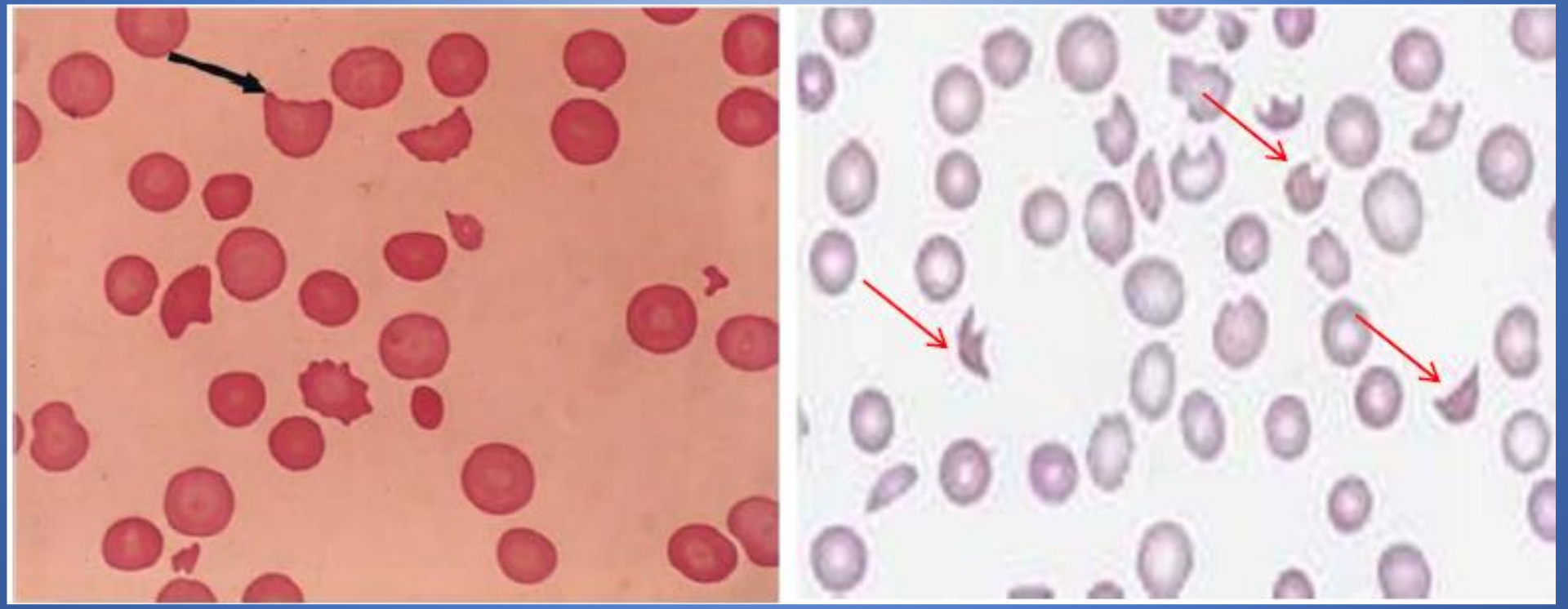


Μυελοδυσπλαστικό Σύνδρομο



Σχιστοκύτταρα!!!

Σε θρομβοπενία+Αναιμία+ ΌΧΙ 'στίγμα'



REGULAR ARTICLE

blood advances

Check for updates

Consensus recommendations on peripheral blood smear review: defining curricular standards and fellow competency

Table 2. Proposed PBS review consensus statements

Curricular considerations	
1	Education across the fellowship should incorporate both slides derived from patients under the care of the fellow as well as slides from formal slide libraries of high yield morphologies
2	Trainees should be well versed in the description of normal and pathologic nuclear and cytoplasmic characteristics
3	Curricula should include education on how PBS review can augment, or potentially eliminate the need for, more advanced testing
4	Discussions of the practical use of PBS review should occur within the context of the medical system as a whole with specific attention devoted to discussions of: (a) Avoiding clinically relevant delays in diagnosis and treatment (b) Providing care in resource limited settings (c) Cost of care and financial toxicity of advanced diagnostic testing
5	Trainees should be aware of and familiar with intracellular parasites (malaria, babesia, ehrlichia/anaplasma) regardless of their geographic location of training
Method of review	
1	Trainees should be taught to systematically review a PBS. This includes specific education on identification of the monolayer, use of various magnifications, switching between magnification, and systematic review of each cell line
2	Learners should be competent in the personal use of a compound light microscope, and should receive hands on training throughout fellowship
3	Learners should be made aware of limitations associated with the use of digital and remote microscopy use
Morphology	
1	Emphasis should be placed on (a) Disorders where correct and timely diagnosis is paramount to avoiding significant patient morbidity, acute decompensation, or death (b) Commonly encountered diagnoses
2	Trainees should be able to identify features of normal PBSs
3	Specific curricular emphasis should be placed on the morphologic presentation of acute leukemias and hemolytic anemias, including TMA
Disorders of white blood cells	
Trainees should be able to:	
1	Distinguish reactive leukocytosis from malignant processes
2	Identify blasts and myeloid precursors
3	Recognize evidence of myeloid dysplasia in peripheral blood
4	Identify the following cells on a PBS: atypical (reactive) lymphocytes, large granular lymphocytes, mature lymphocytes, mature myeloid cells, and immature myeloid precursors
5	Identify circulating promyelocytes, specifically in the context of suspected acute promyelocytic leukemia
Disorders of red blood cells	
Trainees should be able to:	
1	Readily identify peripheral smear evidence of TMA, with specific emphasis on identification of schistocytes
2	Hypothesize the mechanism of hemolytic anemia based upon red blood cell morphology and the presence of poikilocytes
3	Identify sickle cell morphology
4	Identify morphologic findings seen in thalassemias, specifically in the absence of other clinical data such as family history, hemoglobin electrophoresis, and genetic testing
Disorders of platelets	
Trainees should be able to:	
1	Identify platelet clumping (satellitism)
2	Recognize variation in platelet size
3	Identify relative thrombocytosis or thrombocytopenia
	All statements had unanimous consensus and exceeded the prespecified threshold (>70%) for strong consensus.

Table 3. Proposed morphologies required for fellow competency at graduation

White blood cells	Red blood cells	Platelets
Atypical lymphocyte (reactive)	Acanthocyte	Platelet clumping (satellitism)
Band	Agglutination (RBC)	Platelet (giant)
Basophil	Basophilic stippling	Platelet (normal)
Blast (undifferentiated)	Bite cell	Thrombocytopenia
Döhle bodies	Blister cell	
Dysplastic neutrophil	Burr cell	
Eosinophil	Heinz body	
Hairy cell	Howell-Jolly body	
Hypersegmented neutrophil	Hypochromia	
Hypogranular neutrophil	Macrocytic	
LGL	Microcyte	
Lymphocyte (mature)	Nucleated RBC	
Metamyelocyte	Ovalocyte	
Morula (inclusion)	Polychromatophil	
Myeloblast with Auer rod	Ring form (malaria)	
Myelocyte	Schistocyte	
Neutrophil	Sickle cell	
Neutrophil with toxic granulation	Spherocyte	
Plasma cell	Stomatocyte	
Promyelocyte	Target cell	
	Teardrop (dacrocyte)	
	Tetrad (babesia)	

Table 4. Proposed diagnoses required for fellow competency at graduation

Acute leukemia
Acute promyelocytic anemia
Anaplasmosis/ehrlichiosis
Anemia - AIHA
Anemia - iron deficiency
Anemia - megaloblastic
Atypical lymphocytosis
Babesiosis
CLL
CML
Dimorphic RBC population (previous transfusion)
Hairy cell leukemia
ITP
Malaria
Myelophthisic anemia
Normal PBS
Platelet clumping
Reactive leukocytosis
Sickle cell anemia
Thalassemia
TMA/MAHA

Artificial intelligence in hematology

Aziz Nazha,[1] Olivier Elemento,[2] Sanjay Ahuja,[3] Barbara Lam,[4] Moses Miles,[5] Roni Shouval,[6,7] Shannon McWeeney,[8] Shireen Sirhan,[9] Andrew Srisuwananukorn,[10] and Torsten Haferlach,[11] on behalf of the American Society of Hematology Subcommittee on Artificial Intelligence

THANK YOU !