



PARTICIPANT STATISTICS

PERIPHERAL BLOOD SMEAR

THIRD QUADRIMESTER 2011

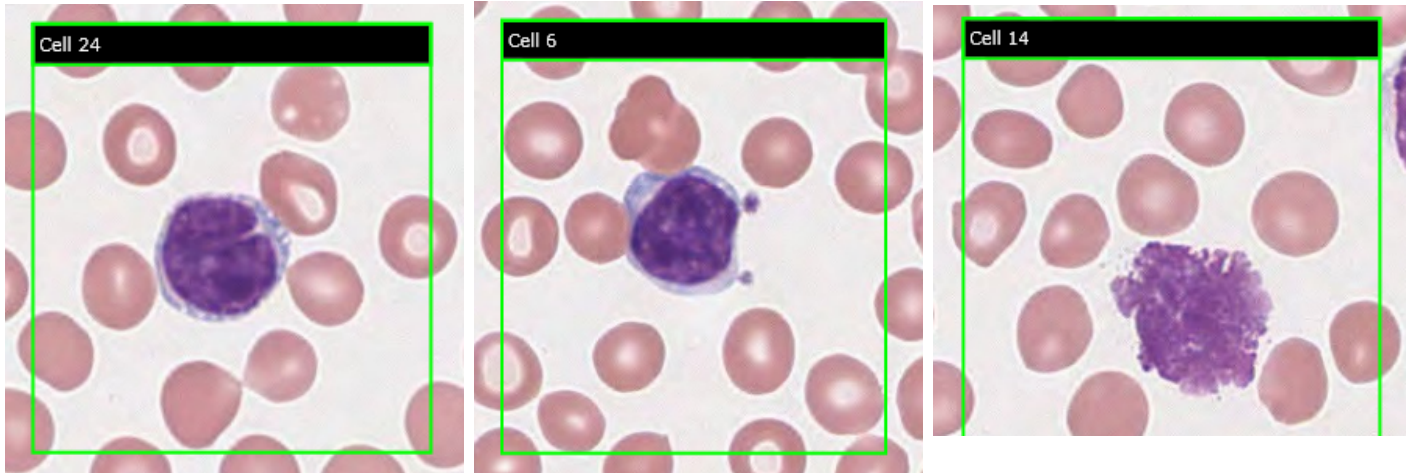
MANUAL DIFFERENTIAL	Specimen 1			Specimen 2			N
	Mean	SD	Range%	Mean	SD	Range%	
Basophils %	0.1	0.6	0 - 4	0.1	0.6	0 - 4	40
Eosinophils %	0.1	0.6	0 - 5	8.0	0.1	0 - 13	44
PMN (Bands/Segs)%	40.3	2.2	37- 47	51.9	2.2	45- 59	44
Lymphocytes %	47.8	5.3	32- 64	29.3	3.7	18 40	44
Monocytes %	2.1	5.3	0- 13	8.6	1.4	4- 14	44
Abnormal/Other %	14.0	12.1	0 - 50	2.0	3.1	0 - 12	44

Question/Response	Specimen 1		Specimen 2	
Yes/True	34		6	*****
No/False	10		38	
TOTAL POPULATION	24			

Due to a lack of participant consensus, Question 1 was not evaluated this event.

Correct responses are defined as those reflecting agreement among 80% or more of all participants or referees. Unacceptable responses are indicated by "*****" on the Flagging line of each specimen.

Peripheral Blood Smear - Slide 1



*To see the original full-sized images, please refer to the original CD or sign on to your data entry sheet at <http://www.aab-pts.org/>

Specimen 11Q3-1: History: A 72-year-old woman makes an appointment with her internist for evaluation and treatment of seasonal allergies. Other than feeling a little fatigued (which she attributes to ragweed season), she has no significant medical issues. CBC results: WBC 15.5, Hgb 12.5 g/dL, Hct 37.6%, Plts 195,000/ μ L. Would you refer this slide for a pathologist's review?

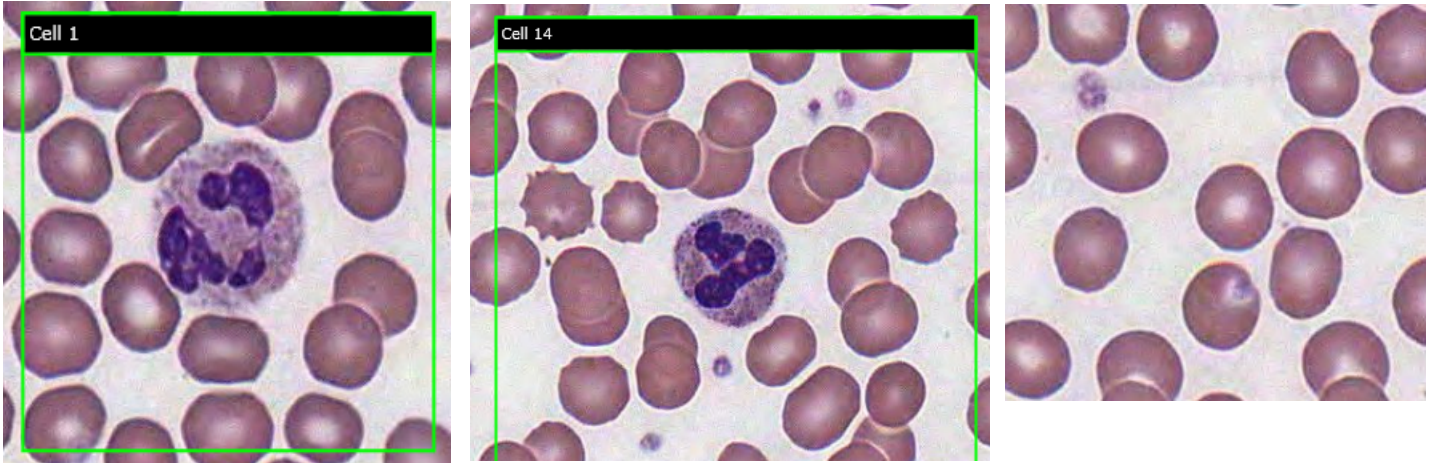
The automated CBC values show a mildly elevated WBC count. Review of the peripheral smear shows mild aniso- and poikilocytosis and lymphocytosis. The lymphocytes are mature with condensed nuclear chromatin, inconspicuous nucleoli, and minimal cytoplasm without marked granulation (Cell 6). A rare lymphocyte with nuclear clefting (Cell 24) is present. Also noted are several smudge cells (Cell 14). These findings are highly suggestive of chronic lymphocytic leukemia, and the peripheral smear should be referred for further review.

Chronic lymphocytic leukemia (CLL) results from the proliferation of a malignant clone of mature B-lymphocytes. This is a disease of the middle-aged and elderly population, with males being affected twice as often as females. Often, the diagnosis is made incidentally when a CBC is performed for reasons other than a suspicion of leukemia. Most patients have no significant physical signs or symptoms at the time of diagnosis. Patients with advanced disease can present with markedly elevated WBC counts, lymphadenopathy and splenomegaly; hepatomegaly is rare.

In early stage CLL, lymphocytosis on the peripheral smear is the only laboratory abnormality. Lymphocytes are small and mature. CLL cells have increased fragility and break apart during preparation of a peripheral blood smear, resulting in broken fragments cellular nuclei (smudge cells). Although not pathognomonic, the presence of several smudge cells is highly suggestive of CLL. Definitive diagnosis is made by flow cytometry

CLL is typically a chronic, slowly progressive disease and older patients frequently die of other causes than the leukemia. Depending on the stage of CLL at the time of diagnosis, no treatment may be undertaken other than "watchful waiting" to detect any changes that may indicate more specific treatment regimens. Over time, as the clone of cells proliferates in the bone marrow, they eventually infiltrate the lymph nodes, spleen and liver. Bone marrow failure eventually occurs.

Peripheral Blood Smear - Slide 2



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Specimen 11Q3-2: History: A 14-year-old girl is seen in an urgent care clinic for a chin laceration that she received during her morning soccer practice. CBC results: WBC 6.1, Hgb 14.1, Hct 43.1%, Plts 226,000/ μ L. Would you refer the slide for a pathologist's review?

The automated CBC values do not indicate any significant abnormalities in the RBC, WBC, or platelet counts. Review of the peripheral smear of this patient shows no significant anisocytosis or poikilocytosis, and no red blood cell inclusions are evident. The white blood cells are present in a normal distribution without a left shift and show no significant abnormalities, such as toxic granulation, inclusions, or reactive lymphocytes. This would be considered a "normal" peripheral blood smear and the findings correlate quite well with the automated CBC values. Unless it is the practice in your facility to submit all peripheral smears to a pathologist for review, it is not necessary to refer this peripheral smear for further examination.