Nonmalignant Granulocyte, Monocyte, and Lymphocyte Disorders
Learning Objectives

At the end of this unit, the student should be able to:

1. Define diapedesis, chemostaxis, phagocytosis, and opsonization.
2. Recognize neutrophilia from hematologic data and name the common disorders associated with neutrophilia.
3. Explain the quantitative and qualitative neutrophil response to acute bacterial infections.
4. Define leukemoid reaction.
5. Distinguish leukemoid reaction from chronic myelogenous leukemia based on the leukocyte alkaline phosphatase stain.
6. Identify neutropenia from hematologic data and list the common disorders associated with neutropenia.
7. Identify neutrophil alterations including Pelger-Huët, hypersegmentation, and pyknotic forms.
8. Recognize as abnormal and describe the cytoplasmic abnormalities such as Alder-Reilly granules, Dohle bodies, morulae, cytoplasmic vacuoles, and Chédiak-Higashi inclusions.
9. Define Gaucher, Niemann-Pick, and Tay-Sachs diseases and recognize the cells associated with these conditions.
10. Define a “shift to the left.”
11. Calculate an absolute cell count for a given cell population.
12. Define neutrophilia and neutropenia.
13. Describe the function of the primary, secondary, and tertiary granules in the neutrophilic cell line.
14. Describe the blood picture seen in a leukoerythroblastic reaction.
15. List and describe the cells in the blastogenesis cycle.
16. Identify the infectious agent; describe the clinical symptoms, patient population and laboratory tests used to diagnose infectious mononucleosis.
17. Describe and recognize the reactive morphology of lymphocytes found in infectious mononucleosis.
18. Given a differential and leukocyte count, calculate the absolute lymphocyte and differentiate it from the relative lymphocyte count.
19. Define lymphocytopenia and lymphocytosis.
20. List organisms and their associated symptoms that cause reactive lymphocytosis.

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21. List 2 conditions associated with lymphocytopenia and describe the etiology.
22. Cite examples of clinical conditions where lymphocytopenia is seen.
23. Identify the virus causing cytolysis of T cells.
24. Describe the clinical symptoms, and lab tests used to diagnose Wiskott–Aldrich and severe combined immunodeficiency syndromes.
25. Cite the type of granules found in reactive/atypical lymphocytes.