83 The Power of Peripheral Blood Smears-Apparent Diagnostic Clues (Part 2)

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This session will focus on detecting and identifying morphologic abnormalities associated with a variety of benign and malignant hematologic conditions. Peripheral blood smears revealing red cell and/or platelet abnormalities will be reviewed in Part 1 and those revealing white cell abnormalities will be covered in Part 2. Audience participation in the discussion will be encouraged throughout the session. The format will consist of projection of an image or a slide by the faculty, detection and identification of morphologic abnormalities by the audience with help from the faculty as needed, and relating the findings to the most likely clinical condition by the audience and/or the faculty.

- Recognize diagnostically important morphologic abnormalities of blood cells.
- Relate the morphologic abnormalities to the associated clinical entities.
- Communicate the diagnostic clues/findings to the clinician.

FACULTY:

Gene Gulati PhD, SH(ASCP)
Entire Pathology Team
Hematopathology
Hematopathology
1.0 CME/CMLE Credit

Accreditation Statement: The American Society for Clinical Pathology (ASCP) is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education (CME) for physicians. This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME).

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Conflicts of Interest

None

Plan for the Course

* Review blood smears, identify abnormal morphologic findings, and relate them to appropriate clinical condition(s)

Part 1: Red cell and platelet abnormalities
- 10 minutes interval

Part 2: White cell abnormalities
- Audience interaction encouraged throughout the course
Format of Presentation
A. Present an image of a blood smear (faculty)
B. Identify the abnormal findings
   (audience +/- faculty)
C. Summarize the pertinent abnormalities
   (faculty)
D. Relate the findings to appropriate clinical
   condition(s) (audience and faculty)
   (with the use of audience response system)

Case 13

Question. An increase in the number of white cells seen in this blood smear of a 19 year old female is most consistent with:

A. Bacterial infection
B. Viral infection
C. Parasitic infection
D. Rickettsial infection
Case 13: Answer

Case 14

Case 14
After albumin
Case 14

Question: The findings of this blood smear of a 68 year old male are most consistent with:

A. Chronic lymphocytic leukemia
B. Acute lymphoblastic leukemia
C. Prolymphocytic leukemia
D. Leukemic phase of lymphoma

Case 14: Answer

Case 15
Case 15

Question: The findings of this blood smear of a 65 year old male are most consistent with:

A. Chronic lymphocytic leukemia
B. Prolymphocytic leukemia
C. Hairy cell leukemia
D. Plasma cell leukemia

Case 15: Answer

Case 16
Case 16

Question: The findings of this blood smear of a 50 year old male are most consistent with:

A. Monocytosis  
B. Monocytic leukemia  
C. Hairy cell leukemia  
D. Plasma cell leukemia

Case 16: Answer

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Case 17
Case 17

Question: The findings of this blood smear of a 55 year old female are most consistent with:

A. Acute myeloblastic leukemia
B. Acute promyelocytic leukemia
C. Chronic myelogenous leukemia
D. Granulocytic leukemoid reaction

Case 17: Answer

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Case 18
Case 18

**Question:** The findings of this blood smear of a 28 year old male are most consistent with:

A. Lymphocytosis  
B. Atypical lymphocytosis  
C. Chronic lymphocytic leukemia  
D. Acute leukemia

Case 18: Answer

Case 19
Case 19

Question: The findings of this blood smear are most consistent with:

A. Acute lymphoblastic leukemia
B. Acute myeloblastic leukemia
C. Acute promyelocytic leukemia
D. Acute leukemia

Case 19: Answer

Case 20
Case 20

Question: The findings of this blood smear are most consistent with:

A. Acute myeloblastic leukemia
B. Acute myelomonocytic leukemia
C. Acute promyelocytic leukemia
D. Reactive monocytosis

Case 20: Answer
Case 21

Question: The findings of this blood smear of a 30 year old female are most consistent with:

A. Acute leukemia
B. Acute monocytic leukemia
C. Acute promyelocytic leukemia
D. Large Granular lymphocytic leukemia

Case 21: Answer
Case 22

Question: The findings of this blood smear of a 42 year old female are most consistent with:

A. Hairy cell leukemia
B. Plasma cell leukemia
C. Lymphoblastic leukemia
D. Megakaryoblastic leukemia

Case 22: Answer

Case 23
Case 23

Question: The findings of this blood smear of an 80 year old female are most consistent with:

A. Myelofibrosis
B. Leukemoid reaction
C. Chronic myelogenous leukemia
D. Chronic myelomonocytic leukemia

Case 23: Answer
Case 24

Question: The findings of this blood smear of a 65 year old male are most consistent with:

A. B12 deficiency  
B. Folate deficiency  
C. Myelodysplastic syndrome  
D. Chronic myeloproliferative neoplasm

Case 24: Answer

References

   by Gulati, G and Caro, M (ASCP Press, 2007)

2. Color Atlas of Hematology  
   Editor: Glassy, EF  (CAP, 1998)

   by Gulati, G  (ASCP Press, 2009)

4. Case Studies in Hematology and Coagulation  
   Editors: Gulati G, Fillicko-O'Hara J, and Krause J  
   (ASCP Press, 2012)