EHA LearningMondays Question Guideline

EHA LearningMondays offers learners weekly, bite-sized hematology challenges. Each Monday, EHA shares a clinical case or question via email and social media, encouraging participants to test their knowledge. Answers and explanations are provided to support learning.

We are delighted by your interest in contributing questions to LearningMondays. Please consult the guide below and review the examples to help you craft your submission.

You can submit your question through on the LearningMondays submission page. Once received, EHA will review it and contact you (the authors) to discuss next steps.

Guideline for clinical questions

1. Include a brief clinical presentation, supplemented with relevant details such as laboratory results and genetic mutations, where applicable.
2. Offer 5 plausible answer options.
3. Provide an explanation for the question, discussing why the correct option is accurate and why the other options are incorrect. Text should be within 110 words.
4. Provide 2-3 most recent citations.

Structure

The structure of the LearningMonday clinical cases are straightforward. Please structure your question according to the framework below.

1. Clinical background/information
2. Lab results and data
3. Bone marrow aspirate image (where applicable)
4. Question
5. Feedback
6. Citations

Refer to the examples below when writing your questions.

Examples of questions:

Question 1

A 29-year-old newlywed woman who wants to become pregnant has taken a blood test. She has a microcytic anemia. Her ferritin is normal and her HbA2 is 6.9% (2.1-3.2%).

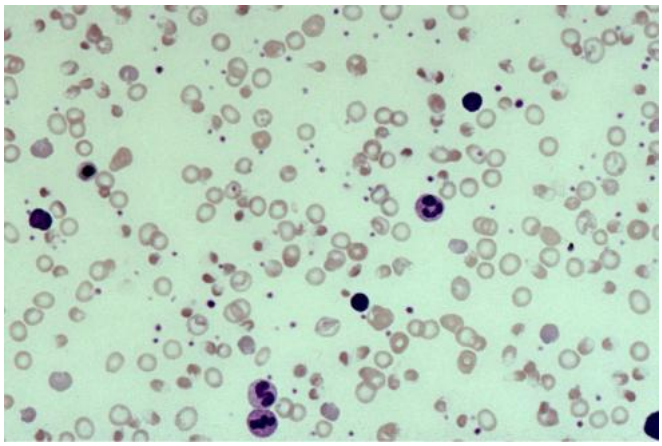
Which would be your suggested line of action?

1. Take iron
2. Do nothing
3. Take folic acid
4. Test her husband's full blood count
5. Test her husband's HbA2

Explanation
The correct answer is to test her husband's HbA2.
Elevated HbA2 in the absence of iron deficiency is diagnostic of β-thalassemia trait. In this context it is essential to test the potential father and give genetic advice regarding the probabilities of conceiving a child with β-thalassemia major.

Question 2

A 3-year-old boy from Nigeria is admitted following a febrile convulsion. On the third day of his admission, he is clinically better and afebrile but appears jaundiced. His blood film is shown.



What is the most likely diagnosis?

1. G6PD deficiency
2. Pyruvate kinase deficiency
3. Hereditary spherocytosis
4. Autoimmune hemolysis

5. Thalassemia intermedia

Explanation
G6PD deficiency is the most common red blood cell enzymopathy. It is inherited in an X-linked fashion. Neonatal jaundice is characteristic, and hemolysis is normally precipitated by oxidative stress, caused by drugs, such as anti-malarials and dapsone, or foods rich in oxidative radicals, such as fava beans.

Question 3

A 43-year-old woman presents with pulmonary embolism. Laboratory investigation shows leucocytosis of 23 x 10^9/l, platelets of 319 x 10^9/l, Hb of 110 g/l.
Bone marrow blasts are 18%, Auer rods are seen, so is dysplasia in all cell lines.
Cytogenetic investigations show a t(8;21).

What is the diagnosis?

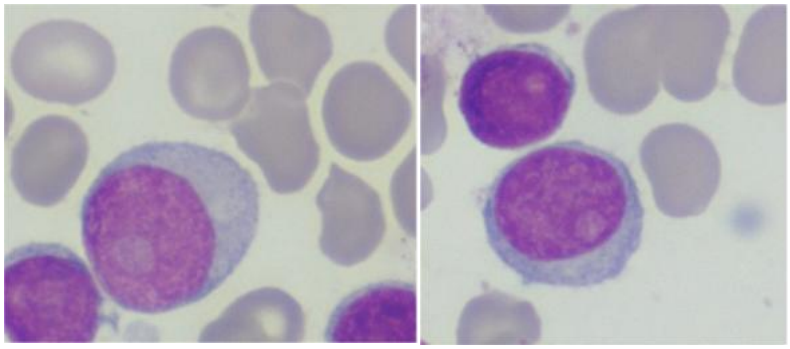
1. Myelodysplastic syndrome with increased blasts –1
2. Myelodysplastic syndrome with increased blasts-2
3. Leukemoid reaction
4. Acute myeloid leukemia with defining genetic abnormalities
5. Acute myeloid leukemia with myelodysplasia related changes

Explanation
The correct diagnosis is acute myeloid leukemia with defining genetic abnormalities.
t(8:21) is a defining genetic abnormality, and 20% blasts is not necessary for a diagnosis of acute leukemia in this case.

Reference:
Khoury JD, et al. The 5th edition of the World Health Organization Classification of Haematolymphoid Tumours: Myeloid and Histiocytic/Dendritic Neoplasms. Leukemia. 2022;36:1703-1719.

Question 4

A 70-year-old male patient is under investigation for headaches, fatigue, and early satiety which have been progressing over the last 3 months. Mild anemia is accompanied by 25% of unusual mononuclear cells in the peripheral blood displayed below.



Which laboratory value is expected to be markedly above the upper limit of normal?
a) Creatinine
b) EBV DNA copy
c) Total protein
d) Calcium
e) Circulating soluble Il-2 receptor

Correct answer: C
Explanation: The cells depicted in these images are lymphoplasmacytoid cells typical of Waldenstrom's macroglobulinemia/lymphoplasmacytic lymphoma. IgM and total protein levels are typically markedly elevated in these patients. Although multiple myeloma is closely associated with hypercalcemia and kidney injury, these are frequently expected in WM. EBV, which can be identified by elevated DNA copy levels, is associated with many lymphoproliferative diseases; however, WM is not an EBV-driven disease. Hemophagocytosis is not a common feature in WM. MYD88 mutations are found in most WM cases and would be valuable in confirming the diagnosis.

Reference:
Dimopoulos MA, Kyle RA, Anagnostopoulos A, Treon SP. Diagnosis and management of Waldenstrom's macroglobulinemia. J Clin Oncol. 2005;23(7):1564-1577.