



# *Pathology*

*Dr. Olaa Quiz*

*Hayat batch*

وَقُلْ رَبِّ زِدْنِي عِلْمًا



# Pathology Quiz.

1. A 60-year-old male patient presented with weakness and unexplained bleeding. On examination, he was pale with cutaneous hemorrhage and a palpable spleen. His CBC showed low hemoglobin and platelet levels. A bone marrow biopsy revealed a hypercellular marrow with about 36% of cells having delicate nuclear chromatin, multiple nucleoli, and fine cytoplasmic granules with some red rods (needle-like structures). These cells were positive for CD14 and CD13. Which of the following best describes the patient's underlying disease:

- A. The cells with monocytic differentiation are characteristically negative for NSE while positive for MPO
- B. The presence of del 5 or 7 represents a good prognostic factor
- C. The described marrow cells are fully differentiated, mature, and usually positive for TDT
- D. The promyelocytic subgroup is usually associated with t (15,17)
- E. This disease occurs absolutely in children

1. A **60-year**-old male patient presented with weakness and unexplained bleeding. On examination, he was pale with cutaneous hemorrhage and a palpable spleen. His CBC showed low hemoglobin and platelet levels. A bone marrow biopsy revealed a **hypercellular marrow with about 36%** of cells having delicate nuclear chromatin, **multiple nucleoli**, and fine cytoplasmic **granules** with some **red rods (needle-like structures)**. These cells were positive for **CD14 and CD13**. Which of the following best describes the patient's underlying disease:

**Dx: Acute myeloid leukemia (AML)**

- A. The cells with monocytic differentiation are characteristically negative for NSE while positive for MPO
- B. The presence of del 5 or 7 represents a good prognostic factor
- C. The described marrow cells are fully differentiated, mature, and usually positive for TDT
- D. The promyelocytic subgroup is usually associated with t (15,17)**
- E. This disease occurs absolutely in children

2. A 65-year-old patient presented with fatigue and was found to have pancytopenia with nucleated erythroid precursors and teardrop cells and myelocytes and metamyelocytes in the peripheral blood. Further bone marrow aspiration resulted in a dry tap, whereas the biopsy showed a hypocellular fibrotic marrow with clusters of megakaryocytes with "cloudlike" outlines. Which of the following regarding the patient's disease is true:

- A. JAK2 mutation is never seen in this disease
- B. Fibroblast proliferation is stimulated by factors released by granulocytes
- C. It is associated with changes called Leukoerythroblastosis
- D. It is never associated with splenomegaly
- E. The diagnosis is acute leukemia



# Pathology Quiz.

2. A 65-year-old patient presented with fatigue and was found to have **pancytopenia** with **nucleated erythroid** precursors and **teardrop cells and myelocytes and metamyelocytes** in the peripheral blood. Further bone marrow aspiration resulted in a **dry tap**, whereas the biopsy showed a **hypocellular fibrotic marrow** with clusters of **megakaryocytes with "cloudlike" outlines**. Which of the following regarding the patient's disease is true:

**Dx: Primary myelofibrosis**

- A. JAK2 mutation is never seen in this disease
- B. Fibroblast proliferation is stimulated by factors released by granulocytes
- C. It is associated with changes called Leukoerythroblastosis**
- D. It is never associated with splenomegaly
- E. The diagnosis is acute leukemia

3. A 59-year-old female was found to have generalized lymphadenopathy. A lymph node biopsy was effaced by a malignant tumor composed of nodules of small lymphocytes with angular nuclei admixed with larger cells with prominent nuclei. These cells stained positive for CD10, CD20, and an antiapoptotic protein (BCL2). What is the molecular change you expect to find in this tumor:

- A. T (11,14)
- B. T (14,18)
- C. T (14,8)
- D. T (2,8)
- E. T (9,22)

3. A 59-year-old female was found to have generalized lymphadenopathy. A lymph node biopsy was effaced by a **malignant** tumor composed of **nodules of small** lymphocytes with angular nuclei admixed with **larger** cells with prominent nuclei. These cells stained positive for **CD10, CD20, and an antiapoptotic protein (BCL2)**. What is the molecular change you expect to find in this tumor:

**Dx: Follicular lymphoma**

- A. T (11,14)
- B. T (14,18)**
- C. T (14,8)
- D. T (2,8)
- E.T (9,22)



## Pathology Quiz.

4. A 56-year-old man presented with sudden acute pain and swelling in his arm. An x-ray revealed a fracture of the humerus with multifocal lytic lesions. A biopsy of the lesion and a bone marrow biopsy showed similar findings of sheets of plasma cells comprising > 10% of cellularity. In addition, his serum protein electrophoresis revealed a monoclonal protein spike > 3 gm/dl. What is the most likely diagnosis of the patient:

- A. Lymphoplasmacytic lymphoma
- B. Monoclonal gammopathy of undetermined significance.
- C. Multiple myeloma.
- D. Smouldering multiple myeloma
- E. Solitary plasmacytoma of bone

4. A 56-year-old man presented with sudden acute pain and swelling in his arm. An x-ray revealed a fracture of the humerus with **multifocal lytic lesions**. A biopsy of the lesion and a bone marrow biopsy showed similar findings of sheets of **plasma cells comprising > 10%** of cellularity. In addition, his serum protein electrophoresis revealed a **monoclonal protein spike > 3 gm/dl**. What is the most likely diagnosis of the patient:

- A. Lymphoplasmacytic lymphoma
- B. Monoclonal gammopathy of undetermined significance.
- C. Multiple myeloma.**
- D. Smouldering multiple myeloma
- E. Solitary plasmacytoma of bone

5. Regarding nodular sclerosis, Hodgkin lymphoma, one of the following is true:

- A. The classical RS cells are usually negative for CD15 and CD30
- B. It carries a very poor prognosis
- C. It is closely associated with EBV
- D. It usually presents with early stages
- E. It is the least common form



## Pathology Quiz.

5. Regarding **nodular sclerosis** Hodgkin lymphoma, one of the following is true:
- A. The classical RS cells are usually negative for CD15 and CD30
  - B. It carries a very poor prognosis
  - C. It is closely associated with EBV
  - D. It usually presents with early stages**
  - E. It is the least common form

