

# HLS-Pathology

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## Archive

### Lecture 1

### Anemia-I

1) major diagnosis of aplastic anemia ?

- a. bone marrow biopsy
- b. CBC

Answer : a

2) Different proteins are involved in iron metabolism . Among them hepcidin which is not characterized by ?

- a. it is upregulated by increased iron level to down regulate ferroportin
- b. it is downregulated by decreased iron level to up regulate ferroportin
- c. its high expression rate is regulating bacterial growth negatively
- d. its low expression rate is regulating bacterial growth positively
- e. it is directly affecting iron exportation from tissue to blood

Answer : e

3) Which of the following does not describe hepcidin?

- A- pre-regulation by high iron negatively regulates ferroportin

4) Patient has hb- hct- but mcv and others normal with low reticulocytes:

- a. Myelophthisic anaemia

5) All of the following show microcytic hypochromic anemia except?

- a. Thalassemia
- b. Anemia of chronic inflammation
- c. Iron deficiency anemia
- d. Sideroblastic anemia
- e. Aplastic anemia

Answer : e

6) Pica, a side effect of iron deficiency anemia, is?

- a. Eating things that you don't usually eat
- b. Numbness in extremities

Answer : a

7) Anemia with high ferritin and low serum iron and low TIBC?

- a. chronic inflammation anemia

8) An elderly man with low Hb, low retic, low serum iron, high TIBC, what is the most likely cause?

- GIT bleeding

9) Anemia associated with low reticulocytes includes all of the following EXCEPT?

- a. Hemolytic anemia.
- b. Iron deficiency anemia.
- c. Vitamin B12 deficiency anemia.
- d. Folic acid deficiency anemia.
- e. Aplastic anemia.

Answer : a

10) All the following are true about iron deficiency anemia EXCEPT?

- a. Microcytic hypochromic RBCs.
- b. Low hemoglobin.
- c. Low serum iron.
- d. Low serum ferritin.
- e. Low serum soluble transferrin receptors

Answer : e

11) Choose the wrong statement about hepcidin

- A. Is upregulated in response to iron to induce degradation of ferroportin
- B. Is upregulated in response to iron in to induce more synthesis of ferroportin
- C. Is synthesized by the liver

Answer : b

12) All about Anemia of chronic inflammation except

- A. low FE
- B. low TIBC
- C. microcytic
- D. high ferretin
- E. transfusion therapy

Answer : e



# HLS-Pathology

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## Archive

### Lecture 2

#### Non neoplastic heme disorders

corrected By:

**Malaak Al Zaidaneeyen**

ROUH

1- one is incorrectly matched:

- A. neutrophilia/ burns
- B. basophilia/ CMV
- C. lymphocytosis/ TB
- D. eosinophilia/ parasitic or allergy
- E. monocytosis/ inflammatory bowel disease

Ans: B

2- A boy complain from fever and sore throat for two weeks . Test show that he has low Hb , leukocytosis & lymphocytosis . Smear shows that there are atypical cells , monospot test positive . What are these cells ??

- A ) B memory
- B ) CD8+ cytotoxic
- C ) CD4+ helper
- D ) CD8+ regulator

Ans: B

3- atypical lymphocytes associated with

A EBV \*

4- CD 10 with all except:

- A)B-ALL
- B ) Burkitt Lymphoma
- C) follicular lymphoma
- D) Diffuse Large B Cell Lymphoma
- E)mantle

Ans: E

5- Girl with dysurea , along with acute bacterial infection , all found in PB except

- A)Dohle bodies
- B)toxic granules
- C)atypical lymphocyte > Infectious mononucleosis
- D)neutrophila
- E)neutrophila with cytoplasmic vacuoles

ans: C

Wateen

6- Kissing disease is associated with infectious mononucleosis which presented with?  
**EBV infects the epithelium of the oropharynx and salivary gland.**

Wareed

7- What type of cells can be found in Sinus histiocytosis?

- **Histiocytes**

8- Atypical lymphocytes in EBV are what type?

- **CD8 lymphocytes**

Nabd

9- A 53 year old female patient presented with a suspicious palpable breast mass with a clinical and radiological suspicion of malignancy. The histological examination of a biopsy from the mass confirmed the diagnosis of invasive ductal carcinoma. Mastectomy and axillary lymph nodes dissection was scheduled for this patient. Which of the following findings will you most likely detect in this patient axillary lymph nodes?

- a. **Sinus histiocytosis.**
- b. **Paracortical hyperplasia.**
- c. **Follicular hyperplasia.**
- d. **Granulomatous lymphadenitis.**
- e. **Acute Nonspecific Lymphadenitis.**

**Ans : a**



10- One of the following is incorrect about Lymphopenia?

- a. Lymphopenia caused by acute viral infections stems from lymphocyte redistribution.
- b. It is the commonest form of leukopenia.
- c. Associated with rare congenital immunodeficiency diseases.
- d. Observed in advanced human immunodeficiency virus infection.
- e. Caused by high dose corticosteroids.

Ans : b

11- All of the following case scenario can lead to neutrophilia through decrease production EXCEPT?

- a. Patient with recurrent liposarcoma receiving radiation therapy.
- b. Advance stage colonic carcinoma patient receiving chemotherapy.
- c. Sick cell anemia patient presented with splenic sequestration.
- d. Acute myeloid leukemia patient.
- e. Patient suffering from aplastic anemia due to chronic NSAIDs use.

Ans: C

رَأَيْتُ الْحَرَّ يَجْتَنِبُ الْمَخَازِي  
وَيَخِمِيهِ عَنِ الْعَذْرِ الْوَفَاءِ  
أَبُو تَمَامٍ -

الشرح : لقد شاهدت أن الإنسان الشريف صاحب الأخلاق الفاضلة يبتعد عن فعل كل ما يعيبه و أن اتصافه بالوفاء هو الذي يمنعه من الغدر بأصحابه، و تحميه أخلاقه الحميدة من الخطأ. الخير هو الذي يتحرر من الأفكار التي لا توافي قيمه



# HLS-Pathology

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## Archive

### Lecture 3

#### Lymphoid Neoplasm 1

**corrected By:**

**Malaak Al Zaidaneeyen**

Rouh

1- CD 10 with all except:

- A) B-ALL
- B ) Burkitt Lymphoma
- C) follicular lymphoma
- D) Diffuse Large B Cell Lymphoma
- E) mantle

Ans: E mantle > CD5

2- Women with several posterior cervical LN enlargement from a year , biopsy take it shows cells effaced by a distinctly nodular proliferation with two types of cells one predominant is has angular nuclei and other is large with vesicular chromatin with severe nucleoli, one is correct will show:

- A) B cell neoplasm marker with CD10 in GC.
- B) Associated with lymphoid polyposis.
- C) CD5 with no cyclin D1.

Ans: A

3- One is associated with CLL:

- A. Polycythemia
- B. Peripheral lymphocytic
- C. Centroblasts and centrocytes
- D. Tdt marker

Ans: B

4- True about CLL:

- A. 60 and older.
- B. Between 30-40 age group.

Ans: A

5- 11:14 translocation:

Mantle cell lymphoma

6- The false about ALL:

Only occur in adults.

7- good prognosis about ALL:

2-9Y.

8- One is true about ALL?

- A. Often good prognosis
- B. It doesn't occur in adults
- C. Classified according to morphology
- D. Aggressive behavior

ans: C

9- False about neoplastic cells?

Easy to invade by the immune cells.

10- False about CLL?

most cases Tdt positive

11- Mutation found in ALL?

NOTCH1

12- a case about CLL, details given: soccer-cells, CD5, PAX5) Which of the following is incorrect?

- tdt marker positive

13- One of the following pairs between the haematopoietic neoplasms and the cytogenic abnormalities associated with them is wrongly matched?

- a. Acute promyelocytic Leukemia: t(15;17).
- b. Pre—B Acute lymphoblastic leukemia: t(12,21).
- c. Small Lymphocytic Lymphoma: t(9;22).
- d. Follicular lymphoma: t(14;18).
- e. Mantle Cell Lymphoma: t(11;14).

Ans : c

14- A 71-year-old man presented with multiple painless masses on the left side of his neck for the past 3 months. On examination he has firm. non-tender. lymph nodes palpable in left posterior cervical region. No splenomegaly or hepatomegaly. Complete blood count is unremarkable. Histopathologic examination of the cervical lymph node shows numerous crowded nodules of small cleaved cells with occasional larger cells with several nucleoli. Which of the following markers will be most likely expressed by these cells?

- a. CD4.
- b. CD5.
- c. CD10.
- d. TdT.
- e. CD30.

Ans : c

15- One of the following pairs between the haematopoietic neoplasm and the immunohistochemical stains commonly expressed by the tumor cells is wrongly matched?

- a. Pre—B Acute lymphoblastic leukemia: TdT.
- b. Small Lymphocytic Lymphoma: Cyclin D1.
- c. Hodgkin Lymphoma mixed cellularity type: CD30.
- d. Acute myeloid leukemia: MPO.
- e. Nodular lymphocyte predominant Hodgkin Lymphoma: CD10.

Ans : b

16- Chronic lymphadenitis with follicular hyperplasia can mimic the morphology of follicular lymphoma, ALL of the following features favor a reactive follicular (nonneoplastic) hyperplasia EXCEPT?

- a. Preservation of the lymph node architecture.
- b. Variation in the shape of the follicles.
- c. Variation in the size of the follicles.
- d. Recognizable light and dark zones.
- e. Absent germinal center phagocytic macrophages.

Ans : e

فَارْفُضْ بِإِجْمَالِ أُخُوَّةٍ مَنْ  
يَقْلِي الْمَقْلَ وَيَعْشَقُ الْمُثْرِي

وَعَلَيْكَ مِنْ حَالَةٍ وَاحِدَةٍ  
فِي الْيَسْرِ إِمَّا كُنْتَ وَالْعُسْرِ

الْبُحْثَرِي.

# HLS-Pathology

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## Archive

### Lecture 4

#### Lymphoid Neoplasm 2

**corrected By:**

**Malaak Al Zaidaneeyen**

Rouh

1- Patient complained from cervical lymphadenopathy . Biopsy from node reveals that there are cells CD30 & CD15:

- A) Hodgkin Lymphomas.
- B) Burkitt Lymphoma.

Ans: A

2- Incorrect about Hodgkin lymphoma :

- A) RS cell escape from immune response
- B) classic show CD 15/CD30
- C) NLP show CD15 and fail to CD20
- D) nodular and mixed are most common
- E) stages III & IV) are more likely to exhibit B symptoms (fever, weight loss, night sweats).

Ans: C

Wateen

3- All of the following are classical Hodgkin lymphoma except: Nodular lymphocytic predominant. Immunophenotype of RS cells?

Pax 5, CD15, CD30, & B positive. T cell markers and CD45 negative.

4- Owl red occur in? Burkitt lymphoma MYC mutation: Burkitt Starry sky? **Burkitt**

Wareed

5- In the case of Diffuse large B cell lymphoma what is the genetic mutation? **BCL6**

6- a 60 year old present with erythroid patch, and epithelial cells would be positive for? **CD4**



### Nabd

7- A 71-year-old man presented with multiple painless masses on the left side of his neck for the past 3 months. On examination he has firm, non-tender, lymph nodes palpable in left posterior cervical region. No splenomegaly or hepatomegaly. Complete blood count is unremarkable. Histopathologic examination of the cervical lymph node shows numerous crowded nodules of small cleaved cells with occasional larger cells with several nucleoli. Which of the following markers will be most likely expressed by these cells?

- a. CD4.
- b. CD5.
- c. CD10.
- d. TdT.
- e. CD30.

Ans : c

8-A 33-year-old female has experienced low grade fevers, night sweats, and generalized malaise for the past 2 months. On physical examination she has painless cervical lymphadenopathy. A cervical lymph node biopsy showed occasional CD15+ and CD30+ Reed-Sternberg cells surrounded by mixed inflammatory cells and bands of fibrosis. Which of the following is the most likely her diagnosis?

- a. Follicular lymphoma.
- b. Mantle cell lymphoma.
- c. Burkitt lymphoma.
- d. Marginal zone lymphoma.
- e. Hodgkin lymphoma.

Ans : e

9-A 44-year-old man has noted a change in the appearance of his face over the past 7 months. On physical examination his facial skin is full of thick and red plaques. Microscopic examination of a punch biopsy from the plaques shows infiltration of epidermis by cerebriform neoplastic T lymphocytes that are CD4 positive. Which of the following is the most likely diagnosis?

- a. Hodgkin lymphoma.
- b. Mycosis fungoides.
- c. Burkitt lymphoma.
- d. Acute lymphocytic leukemia.
- e. Marginal zone lymphoma.

Ans : b



10- A 9-year old girl has had increasing abdominal distention and pain for the past 3 days. An abdominal CT scan shows a large mass involving the small bowel. The mass was resected and microscopic examination shows sheets of intermediate size lymphocytes, with nuclei several nucleoli and many mitotic figures. Cytogenetic analysis of the cells from the mass shows t(8;14) karyotype. Which of the following is the most likely diagnosis?

- a. Precursor T acute lymphoblastic lymphoma.
- b. Precursor B acute lymphoblastic lymphoma.
- c. Hodgkin lymphoma.
- d. Marginal zone lymphoma.
- e. Burkitt lymphoma.

Ans:e

11- A 27-year-old Man has been experiencing low grade fevers, night sweats, and generalized malaise for 2 months. Physical examination revealed painless cervical lymphadenopathy. A cervical lymph node biopsy is showed occasional CD15+ and CD30+ Reed-Stenberg cells along With large and small lymphocytes and bands of fibrosis. One of the following is INCORRECT regarding his disease?

- a. Reed-Sternberg (RS) cell escapes host immune response by expressing high levels of PD ligands.
- b. In Classic subtypes RS cells fail to express CD20.
- c. Nodular lymphocyte predominant subtype expresses CD30 and CD15.
- d. B symptoms in this patient usually indicate stage III or IV disease.
- e. Nodular sclerosis and mixed cellularity are the two most common types.

Ans: C

12- In the most widely used staging system for lymphomas, stage III means? Select one:

- a. Localized disease, single lymphoid region or single organ.
- b. Two or more lymphoid regions on the same side of the diaphragm.
- c. Two or more lymphoid regions above and below the diaphragm.
- d. Widespread disease with multiple organ involvements.
- e. Patient exhibit 8 symptoms (fever, weight loss, night sweats).

Ans:C

يعيش المرء ما استحيا بخير ويبقى العود ما بقي اللحاء

الشرح : إن الإنسان كغصن الشجر، و الحياء يغطيه كقشر الشجر، فإذا سقط قشر الشجر، يبس الغصن و أصبح لا قيمة له ، و كذلك الإنسان إذا ذهب حياؤه ، أصبح بلا فائدة .

# HLS-Pathology

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## Archive

### Lecture 5

#### RBC disorders 2

**corrected By:**

**Malaak Al Zaidaneeyen**

1. Pregnant women with low retics, low Hb, High MCV :

- A) anemia of B12 def
- B) anemia of folic acid
- C) iron deficiency anemia

Ans: B

2. All of these are considered as folate deficiency etiology except:

- A. Increase demand
- B. Chronic blood loss
- C. Infection
- D. Malabsorption
- E. Decrease dietary

Ans: c

Chronic blood loss as a secondary cause

3. One is megaloblastic anaemia;

-B12 deficiency

4. What is a sign of megaloblastic anemia due to B12 def?

- A- weakness and fatigue
- B- good memory
- C- increased appetite

Ans: A

5. Woman in her last trimester. Her CBC values are Hb 9g/dl, Hct 31%, reticulocytes 0.3%, MCV 100fL. Her serum Ferritin level was normal?

- a. iron deficiency anemia.
- b. B12 deficiency.
- c. Folic acid deficiency.
- d. GIT bleeding.
- e. Anemia of chronic inflammation.

Ans: C تبويض + مكرر فسيو

6. Vitamin B12 deficiency: Which statement is FALSE?

Select one:

- a. Develops more quickly in patients with chronic liver disease.
- b. Traps folate in the inactive 5-methyltetrahydrofolate form.
- c. Causes deficiency of methionine but elevates plasma homocysteine level.
- d. Causes megaloblastic erythropoiesis that is partially corrected by folic acid.
- e. If severe, it causes dementia before damaging peripheral somatic nerves.

Ans: E sensory > posterior not somatic

7. About B12 deficiency, Select one:

- a. It can occur after 6 months of deficiency.
- b. is associated with reduced formation of dTMP.
- c. If severe, it can cause neural tube defects in foetus during pregnancy.
- d. is partially correctable by vitamin B12 administration.
- e. is not associated with neurological damage.

السؤال مو واضح ونكتب بآخر ملف وريد بس المهم صيغة السؤال مو الخيارات

سمعتهم يقولون بأن الإنسان يشقى بلين قلبه، ولكن للنبي ﷺ حديث جميل:

{ أَلَا أُخْبِرُكُمْ بِمَنْ يَحْرُمُ عَلَى النَّارِ؟ أَوْ بِمَنْ تَحْرُمُ عَلَيْهِ النَّارُ؟ تَحْرُمُ عَلَى كُلِّ قَرِيبٍ، هَيِّنٍ، لَيِّنٍ، سَهْلٍ }

وحديث آخر:

{ يَدْخُلُ الْجَنَّةَ أَقْوَامٌ، أَفِيدَتُهُمْ مِثْلُ أَفِيدَةِ الطَّيْرِ }

يكفيك برقة ولين قلبك أن تحرم عليك النار، يكفيك أن تدخل الجنة بلين قلبك

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## Archive

### Lecture 6

#### Plasma Cell Neoplasms

1. A 43 year old female presented with right chest pain, non-radiating for 2 months duration. Chest CT scan revealed well defined hypodense soft tissue mass involving the fifth rib and the parietal chest wall. Histopathologic examination of the mass revealed an infiltration of mature plasma cells. M protein is absent in the blood, urine is negative for Bence jones proteins, and the bone marrow biopsy is normal. What is the most likely diagnosis?

- a. Smoldering myeloma.
- b. Solitary Plasmacytoma.
- c. Monoclonal gammopathy of undetermined significance.
- d. Lymphoplasmacytic lymphoma.
- e. Waldenstrom macroglobulinemia.

Ans: b

2. All of the following is true about Monoclonal gammopathy of undetermined significance (MGUS) EXCEPT?

- a. it is a plasma cell disorder.
- b. It is very common in older adult.
- c. Has constant rate of transformation to multiple myeloma but its low.
- d. Patients have small to moderately large M components in blood.
- e. Patients commonly present with pathologic fractures

Ans: e

3. One of the following is not among renal dysfunction features in multiple myeloma patients?

- a. Light chain deposition in the glomeruli.
- b. Bacterial pyelonephritis.
- c. Obstructive proteinaceous casts.
- d. Hypocalcemia.
- e. Renal stones

Ans: d



4. Which of the following conditions is most commonly associated with the presence of Mott cells on histopathology?

- a. Hodgkin lymphoma
- b. Chronic lymphocytic leukemia (CLL)
- c. Multiple myeloma
- d. Acute lymphoblastic leukemia (ALL)
- e. Infectious mononucleosis

Ans: c

5. Which of the following hematologic malignancies is most commonly associated with the MYD88 mutation?

- a. Follicular lymphoma
- b. Diffuse large B-cell lymphoma
- c. Chronic lymphocytic leukemia (CLL)
- d. Lymphoplasmacytic lymphoma
- e. Mantle cell lymphoma

Ans: d

6. Which of the following statements is correct regarding plasma cell neoplasms ?

- a. Multiple myeloma is commonly associated with Waldenström macroglobulinemia
- b. Monoclonal gammopathy of undetermined significance (MGUS) can progress to multiple myeloma
- c. A solitary bone or soft tissue mass is the most common presentation of multiple myeloma
- d. Bence Jones proteins are high molecular weight immunoglobulins
- e. Lymphoblastic lymphoma does not require aggressive chemotherapy

Ans: b



# HLS-Pathology

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## Archive

### Lecture 7

#### Myeloid Neoplasms

1. Which of the following leukemias has the best prognosis among all reaching 90% cure rate? Select one :

- a. Chronic lymphocytic leukemia.
- b. AML with dysplasia.
- c. AML with the t(15;17).
- d. AML with the t(8:21).
- e. AML with the inv(16).

Ans: c

2. Which of the following statements about AML (Acute Myeloid Leukemia) subtypes is INCORRECT?

- a. PML/RARA fusion is seen in acute promyelocytic leukemia (APL)
- b. Auer rods are commonly seen in AML with t(15;17)
- c. Monoblasts typically lack Auer rods and have folded or lobulated nuclei
- d. Leukemia cutis (skin involvement) is seen in monocytic variants of AML
- e. AML with inv(16) is associated with poor prognosis

Ans: e

# HLS-Pathology

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## Archive

### Lecture 10

#### Myeloid Neoplasms 2

**Corrected by sama'a salhab**

1) Which of the following Myeloproliferative neoplasm(MPN) have the strongest association with tyrosine kinase JAK2 activating mutations? Select one:

- a. Polycythemia vera.
- b. Chronic myelogenous leukemia.
- c. Essential thrombocythemia
- d. Secondary Myelofibrosis.
- e. Primary Myelofibrosis.

ans: a

2) A 53-year-old woman presents to her primary care physician with complaints of fatigue, loss of appetite, weakness and left upper quadrant abdominal pain. On physical exam her spleen is palpated 8 cm below the left costal margin. A complete blood count (CBC) identifies a total white blood cell (WBC) count of 144,000/ $\mu\text{L}$ , predominantly neutrophils, metamyelocytes and myelocytes. Hemoglobin is 11.6 g/dl along with thrombocytosis. Cytogenic studies detected BCR-ABL fusion gene in these cells. One of the following is incorrect about this disease?

- a. The fusion gene is a result of the balanced translocation t(9;22).
- b. First line of treatment is tyrosine kinase inhibitors like Imatinib.
- c. Splenomegaly is as a result of extensive extramedullary hematopoiesis.
- d. Blasts crisis are 70% of lymphoid origin (Acute lymphoblastic leukemia).
- e. It rarely progresses to spent phase.

Ans : d

# HLS-Pathology

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## Archive

### Lecture 11

#### Myeloid Neoplasms 3

**Corrected by sama'a salhab**

1) All of the following diseases are commonly associated with Leukoerythroblastosis EXCEPT?

- a. Primary Myelofibrosis.
  - b. Tuberculosis involving the bone marrow.
  - c. Chronic myeloid leukemia.
  - d. Metastatic carcinoma.
  - e. Advanced human immunodeficiency virus (HIV) infection
- ans: e

2) 34) A 55-year-old woman has had increasing dragging abdominal sensation and enlargement for the past two years. An abdominal CT scan reveals massive (estimated 3000 gm) splenomegaly. Laboratory data revealed anemia, leukopenia, and thrombocytopenia. Nucleated red blood cells and tear drop morphology are seen in the blood film. Which of the following underlying conditions is she most likely to have?

- a. Portal hypertension.
  - b. Chronic myeloid leukemia.
  - c. Infectious mononucleosis.
  - d. Myelofibrosis.
  - e. Multiple myeloma.
- ans: d

3) A 65-year-old woman was found to have an elevated platelet count of  $670 \times 10^9/L$  during a routine checkup. Bone marrow biopsy revealed an increased number of megakaryocytes with abnormal large forms. No abnormalities in other lineages. One of the following is a characteristic symptom in this disease?

- a. Pancytopenia.
- b. Melena.
- c. Erythromelalgia.
- d. Hematemesis.
- e. Splenomegaly.

Ans : c

4) One of the following pairs between the hematopoietic lineage and the dysplastic features that could be observed in myelodysplastic syndrome is wrongly matched?

- a. Erythroid: Nuclear bridging.
- b. Megakaryocyte: Pawn ball cell.
- c. Myeloid: Hypogranulation.
- d. Myeloid: Macrocytosis.
- e. Erythroid: Pseudo-Pelger—Huet cells.

Ans : e

5) A 73-year-old male patient presented to the clinic complaining of general weakness progressing over last 8 months. Physical examination revealed no fever or lymphadenopathy. Routine CBC showed pancytopenia. Bone marrow was hypercellular on biopsy along with erythroid precursors abnormalities including abnormal nuclear contour and iron deposits (ring sideroblasts) but no blasts were seen. Which of the following is the most likely the diagnosis:

- a. acute myeloid leukemia (AML)
- b. Megaloblastic anemia
- c. Epstein-Barr virus infection
- d. Myeloproliferative neoplasm (MPN)
- e. Myelodysplastic syndrome (MDS)

ans: e

6) One of the following is not among the morphologic features observed in the bone marrow of patients with primary myelofibrosis?

- a. Diffusely fibrotic.
- b. Erythroid dysplastic changes.
- c. Clustered large megakaryocytes.
- d. Thick irregular bone trabeculae
- e. Hypocellularity

ans: b