QUESTIONS OF HEMATOLOGY AND THEIR ANSWERS

WHAT IS TRUE AND WHAT IS FALSE?

Questions

1 – Iron deficiency anemia

a) Is usually associated with a raised MCV.

b) The MCH is usually low.

c) Is most commonly due to dietary deficiency in North America (USA, Canada), Europe and Japan.

d) Is associated with a low serum ferritin.

e) Responds much more quickly to parenteral than oral therapy.

Answers

1 –

a) False. MCV is usually low.

b) True.

c) False. Is most commonly due to bleeding.

d) True.

e) False. The rate of response is similar and related to time taken for hemopoiesis to occur (5-8 days).

Questions

2 – Macrocytic anemia

a) Occurs in renal failure.

b) May result from vitamin B12 deficiency.

c) Occurs in the context of chronic inflammatory disease.

d) May be associated with myxedema.

e) May be associated with thalassemia.

Answers

2 –

a) False. Renal failure is usually associated with a normochromic normocytic anemia.

b) True. For example: pernicious anemia, vegetarianism, postgastrectomy.

c) False. The anemia of chronic disease is normocytic or mildly microcytic.

d) True.

e) False.

Questions

3 – Chronic myeloid leukemia (CML)

a) Is the commonest form of leukemia worldwide.

b) Usually presents with bone marrow failure.

c) Is usually associated with the presence of the Philadelphia chromosome.

d) May respond to treatment with interferon.

e) Usually transforms to an acute leukemia.

Answers

3 –

a) False.

b) False. CML presents with leucocytosis.

c) True. > 95% of patients have the Philadelphia chromosome t (9;22).

d) True.

e) True.

Questions

4 – Chronic Lymphocytic Leukemia (CLL)

a) Is a cause of hypogammaglobulinemia.

b) Is commonly treated with intensive combination chemotherapy.

c) Is associated with a median survival of less 2 years.

d) Often presents asymptomatically.

e) Is more commonly derived from B cells than T cells.

Answers

4 –

a) True.

b) False.

c) False. Median survival is 7 – 10 years.

d) True. Up to 30% of patients.

e) True. Up to 95% are B cells.

Questions

5 – The myelodysplastic syndrome (MDS)

a) May occur as a result of prior chemotherapy.

b) Is thought to have a viral etiology.

c) May be associated with the presence of sideroblastic anemia.

d) May be associated with pancytopenia.

e) Is characterized by a reduction in the circulating monocyte count.

Answers

5 –

a) True.

b) False.

c) True.

d) True.

e) False. Monocytes often raised.

Questions

6 – With regard to anticoagulant therapy

a) Warfarin is safer than heparin in pregnancy.

b) The INR is used to control heparin therapy.

c) Low molecular weight heparin can be given orally.

d) Vitamin K is used to reverse the action of warfarin.

e) Should be undertaken lifelong after a single pulmonary embolus.

Answers

6 –

a) False. Heparin is preferable during pregnancy. Warfarin is teratogenic.

b) False. The INR is used to monitor warfarin therapy.

c) False.

d) True. Protamine is used to reverse heparin.

e) False. Three months, unless there are any other thrombosis risk factors.

Questions

7 – Fresh frozen plasma

a) Is recommended in the treatment of hemophilia A.

b) Is heat treated and therefore free from risk of transmission of viral disease.

c) Is useful in the treatment of immune thrmbocytopenia.

d) Is useful in the treatment of thrombotic thrombocytopenic purpura.

e) Must be prepared from whole blood within a few hours of donation.

Answers

7 –

a) False. Factor VIII concetrate or recombinant factor VIII is used.

b) False. It is not heat treated. Viral transmission can occur, although the risk os low.

c) False. Corticosteroids, immunosuppressives, splenectomy and intravenous gammaglobulin can be used.

d) True. Especially in conjunction with plasma exchange and if first depleted of cryoprecipitate.

e) True.

Questions

8 – Neonatal thrombocytopenia

a) Can occur in infants of mothers with immune thrombocytopenia.

b) Is often due to intrauterine viral infection.

c) May be due to transplacental passage of anti-platelet anti-bodies from the mother.

d) Often improves spontaneously.

e) May be associated with absent radii.

Answers

8 –

a) True. Due to transplacental passage of maternal IgG antibodies.

b) True. For example, congenital rubella, CMV,.

c) True. For example, anti-HPA 1^a antibodies.

d) True. Due to half-life of maternally derival antibodies.

e) True. Thrombocytopenia with absent radii (TAR).

Questions

9 – Hemolitic anemia

a) Occurs whenever red cell survival is reduced.

b) Is often accompained by an serum unconjugated bilirrubin.

c) Is usually accompanied by increased urinary bilirubin.

d) Is predominantly extravascular in hereditary spherocytosis.

e) Can lead to kernicterus in the neonate.

Answers

9 –

a) False. Anemia only occurs when bone marrow compensation fails.

b) True.

c) False. The anemia is usually acholuric.

d) True. Hemolysis occurs within the bone marrow and RES.

e) True. This is due to deposition of unconjugated bilirubin in the neonatal brain.

Questions

10 – An increase in peripheral blood eosinophils (eosinophilia).

a) Is commonly seen in bacterial infection.

b) May be an indicator of drug hypersensitivity.

c) Is commonly seen in myeloproliferative disorders.

d) Can lead to cardiomyopathy.

e) Can occur in connective tissue disorders.

Answers

10 –

a) False. It is commonly seen in parasitic diseases.

b) True.

c) False. Basophilia is much more common.

d) True.

e) True.

Questions

11 – Hematological changes during normal pregnance include:

a) An increase in MCV.

b) An increased incidence os thalassemia trait.

c) Increased circulating levels of factors VIII.

d) Neutrophilia.

e) Increased platelet count.

Answers

11 –

a) True.

b) False. Thalassemia trait occurs independently of pregnance.

c) True.

d) True.

e) False. Platelet count often lowered in pregnance.

Questions

12 – Polycythemia vera

a) Occurs more frequently in smokers.

b) May present as gout.

c) Many transform to acute leukemia.

d) Is frequently associated with raised white cell and platelets counts.

e) Is associated with enlarged spleen.

Answers

12 –

a) False. Smokers can develop secondary or spurious polycythemia.

b) True. This is due to hyperuricemia.

c) True. Approximatly 5% of cases.

d) True. In two-thirds of cases.

e) True.

Questions

13 – Platelets

a) Are an important source of thrombin.

b) Are often multinucleated.

c) Are often increased in number in patients with iron deficiency.

d) Will aggregate in response to ADP.

e) Are sometimes reduced in number in von Willebrand's disease.

Answers

13 –

a) False. They are source of thromboxane.

b) False. They do not have nuclei.

c) True.

d) True.

e) True.

Questions

14 – Hematopoietic stem cells

a) Are derivated from the thymus.

b) Circulate in perpheral blood.

c) Are progenitors for plasma cells.

d) Do not express the CD 34 antigen.

e) Decline in number with increasing age.

Answers

14 –

a) False.

b) True.

c) True.

d) True.

e) True.

Questions

15 – With regard to autossomal recessive conditions

a) G6PD deficiency is an example.

b) Hereditary spherocytosis is an example.

c) There is a 1:2 chance that the offspring of two carriens will be homozygous.

d) The carrier state may be associated with a small survival advantage.

e) There is usually a disease – related mutation within a single gene.

Answers

15 –

a) False. It is sex-linked.

b) False. It is autosomal dominante.

c) False. There is a 1:4 chance.

d) True.

e) True.

Questions

16 – The following are known to cause aplastic anemia:

a) Chloramphenicol therapy.

b) Malaria

c) Amyloidosis.

d) Viral hepatities

e) Renal cysts

Answers

16 –

a) True.

b) False.

c) False.

d) True.

e) False.

Questions

17 – The following are risk factors for thrombosis

a) Hemophilia B.

b) Resistance is actived protein C.

c) Nephrotic syndrome.

d) Raised levels of plasma homocysteine.

e) Paroxysmal nocturnal hemoglobinuria.

Answers

17 –

a) False

b) True.

c) True.

d) True.

e) True.

Questions

18 – Important causes of humoral immunodeficiency include:

a) Pyruvate kinase deficiency.

b) Multiple myeloma.

c) Indolent non-Hodgkin lymphoma.

d) Lymphadenopathy.

e) Presence of factor V leiden.

Answers

18 –

a) False. This is a red cell enzymopathy.

b) True.

c) True. As in chronic lymphocytic leukemia.

d) False.

e) False.

Questions

19 – Disseminated intravascular coagulation

a) Is commonly seen as a presenting feature of acute promyelocytic leukemia.

b) Is usually associated with a raised platelet count.

c) Is usually associated with reduced fibrinogen levels.

d) Is usually associated with a prolongated APTT.

e) Is usually associated with a normal TT.

Answers

19 –

a) True.

b) False. The platelet count is usually low.

c) True.

d) True.

e) False. Usually prolongated.

Questions

20 – Protein C

a) Levels are reduced in vitamin K deficiency.

b) Deficiency predisposes to skin necrosis after commencing oral anticoagulant therapy.

c) Levels are inversely related to protein S levels.

d) Levels are reduced in liver disease.

e) Deficiency is a risk factor for thrombosis.

Answers

20 –

a) True.

b) True.

c) False.

d) True.

e) True.