PALM BEACH ATLANTIC
UNIVERSITY
SCHOOL OF NURSING

Patho/Pharm II
Review: Hematologic Physiology

1. What are the functions of blood? What are the two most vital nutrients transported?

2. Chemically speaking blood is suspension in a colloid solution. What does that mean?

3. What is the plasma made of? What portion of blood is plasma? What is the only real difference between plasma and interstitial fluid?

4. What portion of blood is made up of formed elements?

5. What are the three most numerous plasma proteins and their proportions. Where is each made?

6. What are the three class of formed elements? What is the process whereby new ones are formed called? What is the general name for the chemicals that stimulate that process?

7. Describe erythrocyte number, structure, function, and life span. What makes erythrocytes different from all other cells in the body?

8. What is hematocrit? What is the normal range?

9. What are leukocytes? What is the normal range? Name the three major classifications

10. What are the three types of granulocyte and their normal ranges?

11. Describe the normal range, characteristics, function, and lifespan of neutrophils.

12. What are the two kind of neutrophils. What is the term and significance of an elevation of each kind?

13. Describe the normal range, characteristics, function, and lifespan of eosinophils.

14. Describe the normal range, characteristics, function, and lifespan of basophils.

15. Describe the normal range, characteristics, function, and lifespan of monocytes.

16. Describe the normal range, characteristics, function, and lifespan of lymphocytes.

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18. Where does hematopoiesis take place? Name the chemicals that stimulate hematopoiesis for RBCs and granulocytes.

19. Describe the basic steps in the development of RBCs

20. What is the purpose of hemoglobin? What is hemoglobin made of?

21. Name the four nutritional requirements for normal hemoglobin production and describe their role in the body.

23. Describe the iron cycle. What other nutrient is required for iron absorption?

24. What produces erythropoietin and what is the trigger?

25. What is in charge of destroying old red blood cells? What happens to the hemoglobin?

26. What are the three possible causes of hyperbilirubinemia?

27. Describe the changes in blood with aging?

Hematologic Disorders

1. Memorize the normal values for blood.

2. Define CBC, H/H, diff

3. Define anemia?

4. What are the three lab values to examine in order to determine whether a patient has an anemia?

5. What is the danger involved when looking at hematocrit alone?

6. How are anemias classified?

7. What lab value indicates changes in RBC size?

8. What lab values indicate changes in RBC hemoglobin?

9. What is the proper sequence to evaluate a CBC for anemia?

10. What are the classic signs and symptoms of anemia? What two factors influence the severity of the s/s?

11. What compensatory mechanisms does the body use to ameliorate the anemia?

12. If MCV is elevated, what two possible anemias could the patient have? What needs to be checked to tell the difference?

13. If MCV, MCH, and MCHC are all low, what are the two possibilities? Which is more likely?

14. If your patient has anemia, but normal MCV, MCH, and MCHC, what are the four possibilities? What reasoning process would you go through to determine which anemia the patient has?

15. What is the cause of pernicious anemia? How long does it typically take to show up?

16. What kinds of patients are most at risk for pernicious anemia?

17. What are the clinical manifestations of pernicious anemia?

18. What is the treatment for pernicious anemia? What factor must be present for oral dosing to be effective?

19. What other dosing options are available?

20. What lab value is the earliest indicate the patient's anemia is improving?

21. What is the danger of giving folate alone to a patient with pernicious anemia?

22. What is the drug name for B12? What is the major side effect of B12?

23. What is the cause of folate deficiency anemia? What other problem can low folate cause?

24. What are the manifestations of folate deficiency anemia?

25. What is the treatment for folate deficiency anemia? What are the two forms?

26. Why is folic acid so important for women of child bearing age?

27. What are the two most common causes of iron deficiency anemia?

28. What are the most common sites/causes for chronic bleeding?

29. What are the s/s of iron deficiency anemia?

30. What iron labs should be checked to evaluate a patient with iron deficiency anemia?

31. What is the treatment for iron deficiency anemia?

32. What is required to absorb iron?

33. What are the two classes of enteral iron therapy. What are the differences between them?

34. Why does sustained release iron not work well?

35. What are the three iron salts? What are their side effects? What are the dosing considerations? Which drug is most common?

36. What are the s/s of iron toxicity? Who is most at risk? How do we save their lives?

37. What is IV iron reserved for?

38. What are the treatments for each of the normocytic anemias?