

Unit 13 Objectives: Investigation of a Positive DAT and Immune Hemolysis

1. Describe the significance of a positive Direct Antiglobulin Test (DAT).
2. List nine possible causes of a positive DAT.
3. State the purpose of the pretransfusion auto-control or DAT.
4. State the reason why an EDTA tube is the specimen of choice for the DAT and why false positive reactions may occur if a clotted blood sample is used for the DAT test.
5. List the pertinent patient history which must be obtained to aid in interpreting the significance of serological testing.
6. List 4 additional laboratory tests and expected results which, along with the patient's clinical condition, will aid in diagnosing the patient.
7. List the criteria which must be met for the decision to be made not to investigate a positive DAT.
8. List the specimens to be collected when the decision is made to investigate the positive DAT.
9. State the three blood bank tests to perform which will aid in determining the cause of the positive DAT.
10. Give the expected results from the preliminary investigation of the positive DAT that will determine that no further serological testing needs to be done.
11. Define "immune hemolysis".
12. List the 7 laboratory tests and the expected results that will aid in the diagnosis of immune hemolytic anemia.
13. State the most common Auto Immune Hemolytic Anemia (AIHA) encountered and the serological problems this condition may cause.
14. For Warm AIHA (WAIHA) describe the expected serological results for the following: coating protein, antibody class involved, serum reactivity, eluate reactivity, and specificity of the antibody.
15. For WAIHA describe the procedure used to detect allo-antibodies in the presence of warm reactive auto-antibodies.
16. Define the term "least incompatible".
17. Describe the special transfusion considerations for individuals with WAIHA.
18. Describe the diseases associated with the acute and chronic form of Cold Agglutinin Syndrome (CAS).
19. Describe the expected serological results for the following: coating protein, serum reactivity, eluate reactivity, specificity of the antibody and cold agglutinin titer.
20. Describe the mechanism involved in the complement coating of the patient cells in CAS.
21. Describe the two procedures which may be utilized to detect allo-antibodies in the presence of cold -reactive auto-antibodies.
22. Describe the selection of blood and special transfusion considerations for patients with CAS.
23. Describe the mixed type AIHA.
24. Describe the expected serological results for the following: coating protein, serum reactivity, eluate reactivity, specificity of the antibody and cold agglutinin titer.
25. Describe the transfusion considerations for mixed type AIHA.

26. Describe the difference in presentation of Paroxysmal Cold Hemoglobinuria (PCH) in children versus adults.
27. Describe the expected serological results for each of the following: coating protein, antibody class involved, serum reactivity, eluate reactivity, specificity of the antibody and cold agglutinin titer.
28. Describe the mechanism involved in the coating of the patient's cells with complement in PCH.
29. Describe the process for selection of blood for patients with PCH.
30. Describe the serological characteristics of mixed AIHA including: the coating protein, antibody class involved, serum testing, eluate testing and specificity of the auto-antibody.
31. State the tests to perform to determine if alloantibody is present with the auto-antibody in patients with mixed AIHA.
32. Describe how drugs act like haptens in initiation of an immune response to them.
33. For each of the following briefly describe the mechanism involved for in-vivo drug sensitization and the drug most commonly involved: Drug Adsorption (DA), Immune Complex Adsorption (IC), Non-immunologic Protein Adsorption, and Induction of Auto-immunity.
34. Explain why small amounts of drug may result in an acute hemolytic episode in the IC adsorption mechanism.
35. Name the drug which is the most common cause of a drug induced positive DAT.
36. Describe the serological testing and expected results in the evaluation of the drug induced positive DAT for each of the following: DAT, serum, and the use of drug coated cells.