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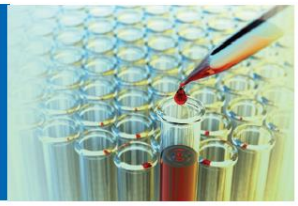

Introduction to Basic Immunology and Techniques

Chapter summary

- Although there has been a long history of attempts at transfusing blood and transplanting tissues the real advances were made in the second half of the twentieth century.
- In both transfusion and transplantation 'foreign' antigens are introduced into the body; therefore, an immune response can be expected.
- The immune response can be either 'innate' or 'adaptive'. The adaptive immune response can be further divided into two divisions 'humoral' and 'cellular'.
- In the humoral response antibodies are produced in response to an external antigenic stimulus.
- The primary response is slow; IgM antibodies are produced first with the plasma cells then switching production to IgG.
- In a secondary response IgG antibodies are produced from the outset with little or no lag phase.
- Antibodies by themselves do not cause cell destruction; some can activate the complement cascade that might result in cell lysis within the circulation—intravascular lysis, or removal of cells coated with C3b by macrophages in the liver.
- Red cells coated with IgG antibody will be recognized by macrophages in the spleen and removed from the circulation—extravascular lysis.
- The main techniques used for blood grouping involve the formation and visualization of agglutination either by direct agglutination (IgM antibodies) or by using the antiglobulin test (IgG antibodies).