

B- CELL DEFICIENCY

Specific Objectives :-

- At the end of the class the student will be able to :-
- Enlist the types of B Cell Deficiency .
- Explain the pathophysiology of B Cell Deficiency.
- Describe the clinical manifestations of B cell deficiency .
- Explain the Medical Management of B cell deficiency .

B-Cell deficiency :-

- Two types of B-cell Deficiencies Exist .
 1. FIRST type results from lack of differentiation of B CELL precursors into mature B-cells.
 2. SECOND Type of B-CELLS deficiency results from a lack of differentiation of B CELLS into plasma cells .

First Type :-Pathophysiology

- Due to causes

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- Plasma cells are absent and germinal centers from all the lymphatic tissue disappear.

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- Complete absence of antibody production against invading bacteria ,virus and other pathogens .

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- (Brutons disease –Sex Linked Agammaglobulinemia) –Because all antibodies disappear from patients plasma. Moreover B-cells and Immunoglobulin's IgG, IgM,IgA,IgD, and IgE are low or absent .

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- Children Born with this defect will be suffer from infections soon after birth .

Clinical Manifestations

- Severe Infections soon after birth
- Bacterial Infections or infections with Giardia Lamblia
- Pernicious Anemia
- Chronic Respiratory infection
- Predisposition to recurrent infections ,adverse reaction to blood transfusion or immunoglobulin, autoimmune diseases, hypothyroidism.
- Heightened Incidence of Infectious diseases

Diagnostic Evaluation

- History
- Physical Examination
- Serum Immunoglobulin and other serological tests
- Antibody titres
- Hemoglobin and hematocrit levels
- Biopsies of the small intestine ,spleen ,stomach .

Management

- Passive Pooled plasma or gamma globulin
- Intravenous Immunoglobulin
- Metronidazole
- Quinacrine HCL
- Vitamin B12
- Antimicrobial therapy