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PRIMARY IMMUNO DEFICIENCIES DISORDERS

1. Hyperimmunoglobulinemia E (HIE) syndrome: its immune component is Phagocytic cells. Major symptoms are Bacterial, fungal, and viral infections; deep-seated cold abscesses. Treatment includes: Antibiotic therapy and treatment for viral and fungal infections Granulocyte-macrophage colony stimulating factor (GM-CSF); granulocyte colony-stimulating factor (G-CSF).
2. Common variable immunodeficiency (CVID): its immune component is B lymphocytes. Symptoms are: Bacterial infections, infection with Giardia lamblia Pernicious anemia Chronic respiratory infections Treatment includes: IV immunoglobulin Metronidazole (Flagyl)

Quinacrine HCl (Atabrine) Vitamin B12 Antimicrobial therapy

1. Thymic hypoplasia (DiGeorge syndrome: its immune component is T lymphocytes. symptoms are: Recurrent infections; hypoparathyroidism; hypocalcemia, tetany, convulsions; congenital heart disease; possible renal abnormalities; abnormal faecies. Treatment includes: Thymus graft
2. Ataxia-telangiectasia: its immune component is both B and T lymphocytes. Symptoms are: Ataxia with progressive neurologic deterioration; telangiectasia (vascular lesions); recurrent infections; malignancies Treatment includes: Antimicrobial therapy; management of presenting symptoms; fetal thymus transplant, IV immunoglobulin
3. Angioneurotic edema: its immune component is Complement system. Symptoms are: Episodes of edema in various parts of the body, including respiratory tract and bowels. Treatment includes: Pooled plasma, androgen therapy.

SECONDARY IMMUNO DEFICIENCIES DISORDERS

1. HIV/AIDS: AIDS, caused by infection by HIV, is the best known secondary immunodeficiency, largely because of its prevalence and its high mortality rate if untreated. However, the most common immunodeficiency worldwide is a result of severe malnutrition, affecting both innate and adaptive immunity. The number of new discoveries in AIDS research far exceeds that for other secondary immunodeficiencies, presumably reflecting the distribution of available funding.

**Pathophysiology**

Since HIV infection is an infectious disease, it is important to understand how HIV integrates itself into a person’s immune system and how immunity plays a role in the course of infection.

This knowledge is also essential for understanding drug therapy and vaccine development.

Viruses are intracellular parasites. HIV belongs to a group of viruses known as **retroviruses**. These viruses carry their genetic material in the form of ribonucleic acid (RNA) rather than deoxyribonucleic acid (DNA)

**Treatment of HIV Infection**

Specific anti-HIV therapy is recommended when the patient develops an AIDS-defining illness, the CD41 T-cell count is less than 350 cells/mm3, or the HIV viral load is higher than 100,000 copies/mL. Caution should be exercised in other clinical situations because of the development of viral resistance to the antiretroviral agents and significant drug adverse effects, including allergic and metabolic syndromes.

1. MALNUTRITION: Protein-calorie malnutrition is the secondary immunodeficiency worldwide. Poor nutritional status may occur not only because of depressed economical situation and limited access to food products but also as a result of diseases that induce cachexia, such as neoplastic diseases. T-cell production and function decline in proportion to the severity of nutrient depletion; however, specific antibody titers and immune response to vaccines can be detected in a malnourished individual for a relatively prolonged period, although eventually these immune responses decrease if malnutrition persists. Similar immune dysfunction occurs with kidney and intestinal conditions that result in protein losses and hypoproteinemia. The deficiency of micronutrients (e.g., zinc, ascorbic acid) contributes to the weakening of barrier mucosa and facilitates penetration of pathogens.6 Nutritional repletion and recovery results in resolution of the immunologic defects.