By (1)

IMMUNODEFICIENCY DISEASES

These are disorderes of immune system that result in an immunological deficiency.
Immunodeficiency Disease are of 2 Types :-

(1.) PRIMARY Immunodefficiency : caused by Inherited defects affecting immune system DEVELOPMENT.

(2.) SECONDARY Immunodeficiencies :-
caused for secondary effects of other diseases leading to damaging effects on the primary or secondary lymphoid organs like bone marrow, bursa of Fabricius, Thymus, Spleen etc.

1). PRIMARY Immunodeficiencies

(A) Inherited Defects in Phagocytosis

(i) Chediak-Higashi Syndrome - seen inherited disease in Cattle. Arise from mutation of LYSOSOMAL TRAFICKING REGULATOR (LYST) gene that leads to enlarged neutrophil granules & abnormal Lysosomes, leading to decrease in Phagocytosis.

(ii) Pelger-Huet Anomaly :- characterize by failure of Neutrophil nuclei to segment into lobes, & nuclei remain rounded.

(B) Inherited Defects of Immune System :-
* Severe Combined Immunodefficiency Syndrome (SCID) in FOALS & CALF
- Foals → show Agamma globulinaemia → have no B-cells & very low level of Immunoglobulins
- Calf → show Hereditary Parakeratosis

(2) SECONDARY Immunodeficiencies :-

a) Virus-induced Immunosuppression
* Infectious Bursal Disease Virus (IBDV) - in Poultry
* Canine Distemper Virus in Dogs
* Retrovirus infn in Cattle / Dogs / Cats
* Feline Immunodeficiency Virus (FIV)

(b) Microbial & Parasitic Infections

(c) Toxin-induced Immunosuppression.

(d) Malnutrition

(e) Trauma & Exercise

(f) Age.