

Immunity

Cell-mediated **Humoral**

4H8C B lymphocyte bind Ag -> Plasma cell -> Ab

Type I (Immediate hypersensitivity/ Allergy)

- IgE mediated - Systemic anaphylactic rxn

1st exposure

Bind Ab to mast cell

2nd exposure

Immediate **Late phase**

1. Sensitized mast cell recruit eosinophils
bind Ag

2. Granulation + release same symptoms, last longer
mediators

Clinical features

H&L: Edema, Mucus Eosinophil damage epithelial cell,
Secretion, Sm spasm activate mast cell

Recruited cell amplify& sustain
response w/ additional exposure

Mediators

Primary **Lipid**

- | | |
|-------------------------------------|------------------------------|
| 1. Vasoactive amines
(Histamine) | 1. Leukotriens |
| 2. Enzymes | 2. Prostaglandin D2 |
| 3. Proteoglycans | 3. Platlet-activating factor |

Cytokines --> TNF,IL-1,Chemokines

Acquired Immunodeficiency syndrome

- Opportunistic infection from HIV (intravenous injection)

- Bind & kill CD4+

- HIV infect CD4+ helper T lymphocytes, Dendritic cell& macrop-
hages

Hallmark

- Loss of 1.Cell-mediated & 2. Humoral immunity

Type 2 (Antibody-mediated)

- Incompatible blood transfusion

Cell destruction by

1. Opsonisation& Phagocytosis
2. Inflammation
3. Cellular dysfunction

Type 3 (Immune complex-mediated)

- Deposition of insoluble Ag-Ab complexes

Phase I: Formation of blood-borne complex

II: Deposition in tissues& Activate complement

III: Attract leukocytes& Vessel+Tissue injury

Type4 (T cell-mediated)

Direct CD8+

Attack all infected cell w./ recognised Ag

Delayed CD4+

Activated T cell release damaging cytokines

Autoimmunity (Systemic Lupus Erythematosus)

Ag: Self cells e.g. Nucleus

Ab: Autoantibodies

- ANA, Antipospholipid, Anticytoplasmic

Clinical expression

Rejection of tissue transplants

- After allocrafts

- Immune system react w./ foreign MHC -> reject& destroy

- Cell-mediated hypersensitivity & Humoral response

- Inflammation, necrosis & organ destruction

