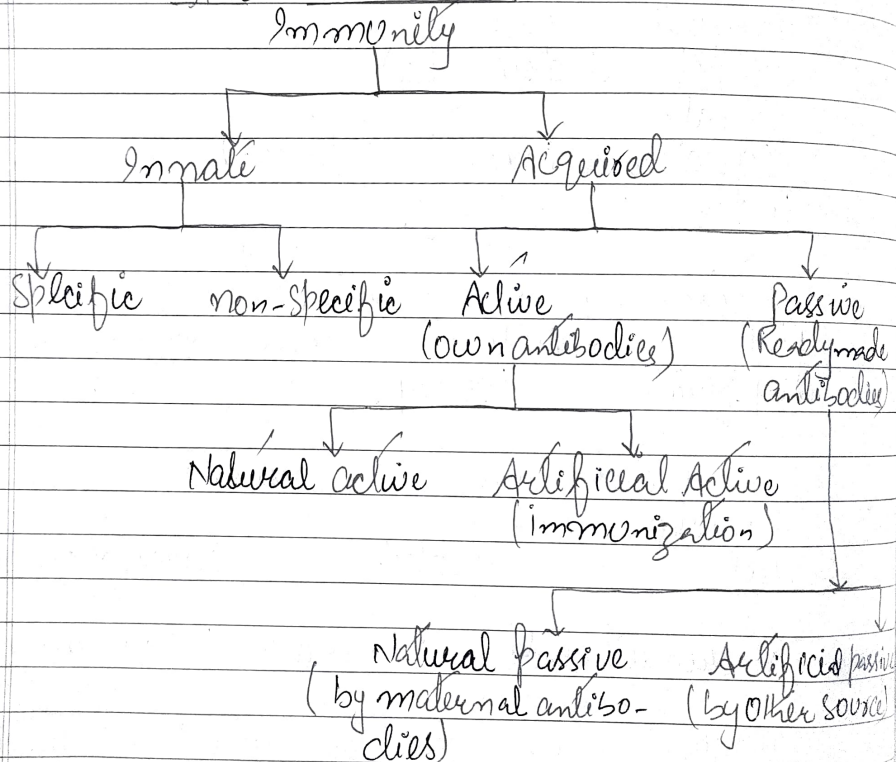


06/08/21

ALTERED IMMUNE RESPONSE

Overview of normal immune system:
Immunity is the resistance of host towards the agent. It is the defense ability of body against pathogens.

TYPES OF IMMUNITY



Innate immunity

This is an inherited immunity comes from parents & transfers from one generation to next generation.

Specific: This is a specific immunity to

a particular disease.

- Non-specific: This is a general immunity & provides immunity to a wide range of diseases.

Acquired immunity

Active immunity

- Natural Active immunity: This is a long lasting immunity & is acquired by clinical or subclinical infections.

- Artificial Active immunity: This type of immu. is introduced through the vaccination.

Passive immunity.

- Natural passive immunity: This is transplacental immunity & is transferred from mother to fetus.

- Artificial passive immunity: This type of immunity is generated through parental administration.

Blood: The lymphocytes are the cells whose activity involves in defense.

- T lymphocytes: The action of these cells is direct attack on antigens.

- B-lymphocytes: The action of these cells is production of antibodies.

Altered immune response, hypersensitivity And Allergy:

Inflammation: Chp. 3
Cell injury

↓
Releasing of histamine, prostaglandins, bradykinin by injured cells.

↓
Releasing of chemicals in blood vessels
↓
leakage of fluid in tissue
↓
Swelling redness & pain.

07/08/21 Hypersensitivity
Hypersensitivity is an undesirable immune response result in disease or tissue injury.

Classification

According to Coombs, e.g. Gell (1963)

Type I - Anaphylactic or immediate

Type II - cytotoxic

Type III - immune complex

Type IV - Delayed or cell mediated.

Type I

This is mediated by IgE. This type of reaction occurs in minutes so it is called as immediate hypersensitivity. This involves:
eyes - conjunctivitis
gastrointestinal tract - gastroenteritis

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Skin - Eczema, Urticaria
Bronchopulmonary - Asthma.

Diagnostic Test

- Total IgE measurement
- Intradermal or prick skin test.
- ELISA (enzyme linked immune sorbent assay).

Management

- Bronchodilators to relieve bronchospasm
e.g., isoproterenol.
- Hypo-sensitization: it includes
 - immunotherapy
 - Desensitization

Type II, Cytotoxic

This type of reactions are mediated through IgG. This may affect the many organs/tissues e.g.,

- Drug reactions - Seroformed purpura
- Granulocytopenia
- Thrombocytopenia.

Diagnostic Test

- History collection
- Physical exam.
- Lesion biopsy
- Detection of circulating antibody.

Treatment

- Immunosuppressive agent
- Anti-inflammatory drugs.

Type III (immune complex)

when the antigen antibody complexes deposited in tissues called immune complex hypersensitivity.

- It may lead to through complement activation & infiltration of polymorphonuclear leukocytes.
- the duration of reaction is about 2 hrs. from 3-10 hrs.

It may affect by organs of body as following.

lungs	skin	systemic lupus
joints	kidneys	Rheumatoid arthritis

Diagnosis

- History collection
- Physical exam
- Tissue biopsy
- immunofluorescent staining.

Treatment

Anti-inflammatory drugs.

TYPE IV (Delayed, or cell mediated)
The hypersensitivity reactions mediated by T lymphocytes.

Types

• Contact