



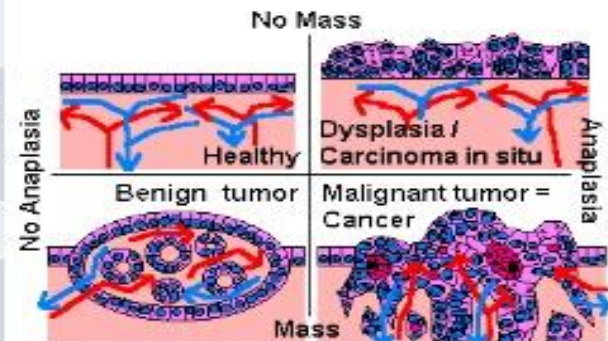
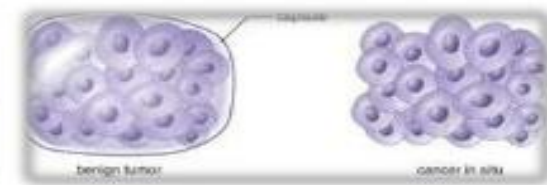
Disorders of growth, Tumors (Benign and malignant) and hypersensitivity

DISORDERS OF GROWTH

- Period of vulnerability:
- Organogenesis (day 15 to day 60 after conception)
- Teratogenic agents:
 - A teratogenic agent is any environmental agent that produces abnormalities during embryonic or fetal development
 - Radiations
 - Drugs and chemicals
(Molecular weight and classification of drugs)
 - Infectious agents (TORCH)

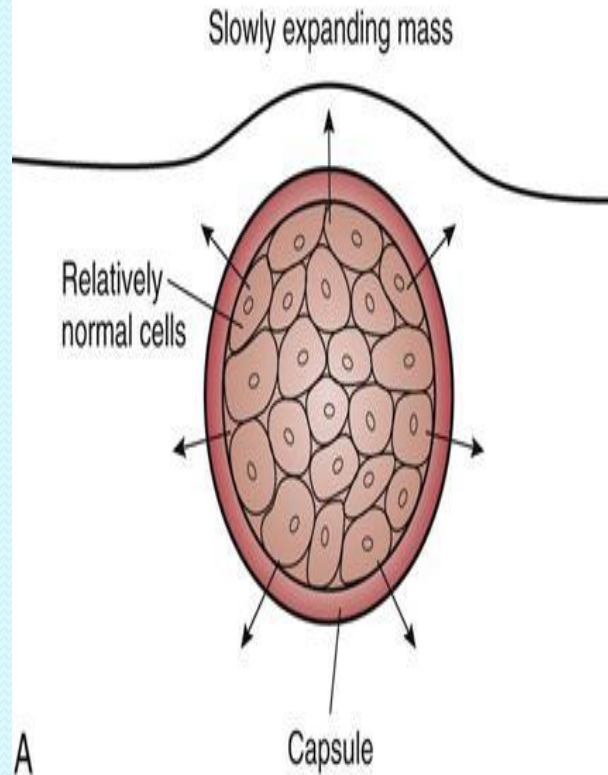
Differences between benign and malignant neoplasms

BENIGN	MALIGNANT
Nuclear variation in size and shape minimal	Nuclear variation in size and shape minimal to marked, often variable
Diploid	Range of ploidy
Low mitotic count, normal mitosis	Low to high mitotic count, abnormal mitosis
Retention of specialisation	Loss of specialisation
Structural differentiation retained	Structural differentiation shows wide range of changes
Organised	Not organised
Functional differentiation usually	Functional differentiation often lost

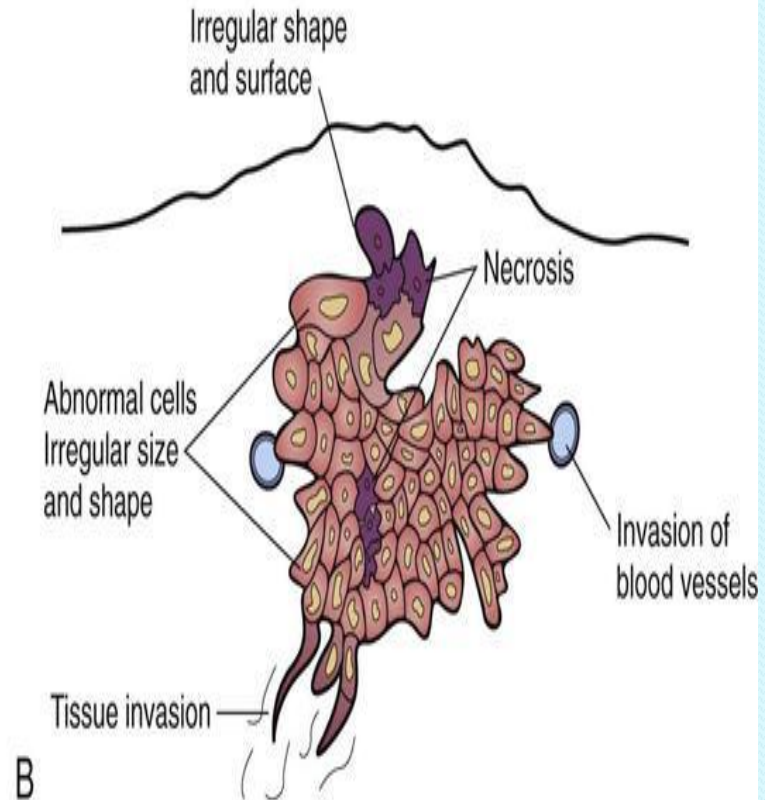


<https://www.google.com.pk/search?q=benign+and+malignant+neoplasms&tbm=is>

Benign Tumor



Malignant Tumor



<https://www.google.com.pk/search?q=benign+and+malignant+neoplasms&tb>

TERMINOLOGY RELATED TO TUMORS

Carcinoma - Tumor of endodermal or ectodermal origin (skin, epithelial lining of internal organs and glands) - 80% of all tumors

Leukemia - Non-solid tumor of cells of the hematopoietic lineage

Lymphoma - Solid tumor of cells of the hematopoietic lineage

Together leukemias and lymphomas represent 9% of tumors in the U.S.

Sarcoma - tumor of mesodermal origin (bone, fat, cartilage) - 1% of tumors diagnosed in the U.S.

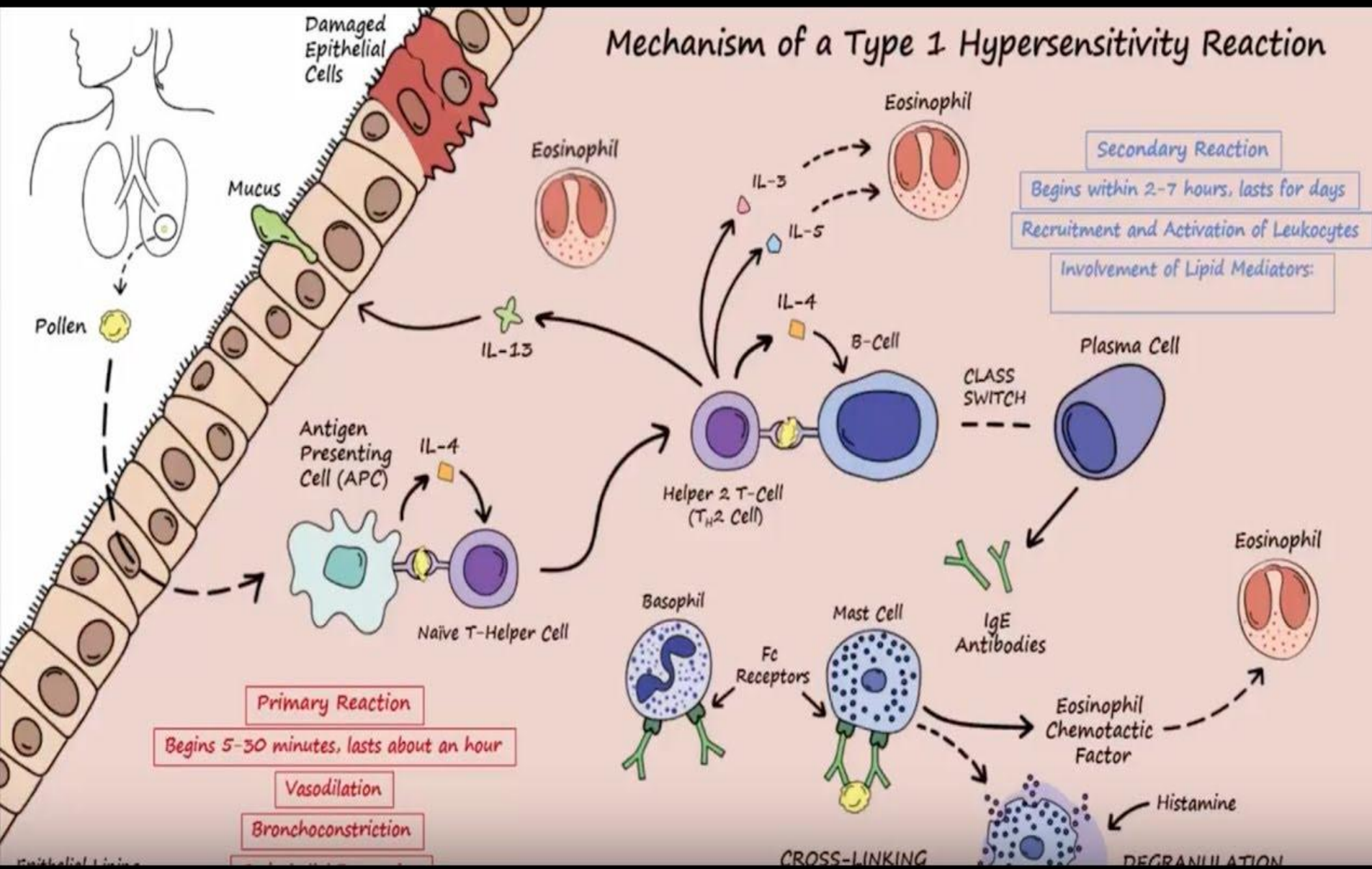
Host and environmental factors

- Heredity
- Hormones
- Immunological Mechanisms
- Chemical carcinogens
- Radiations
- Viruses

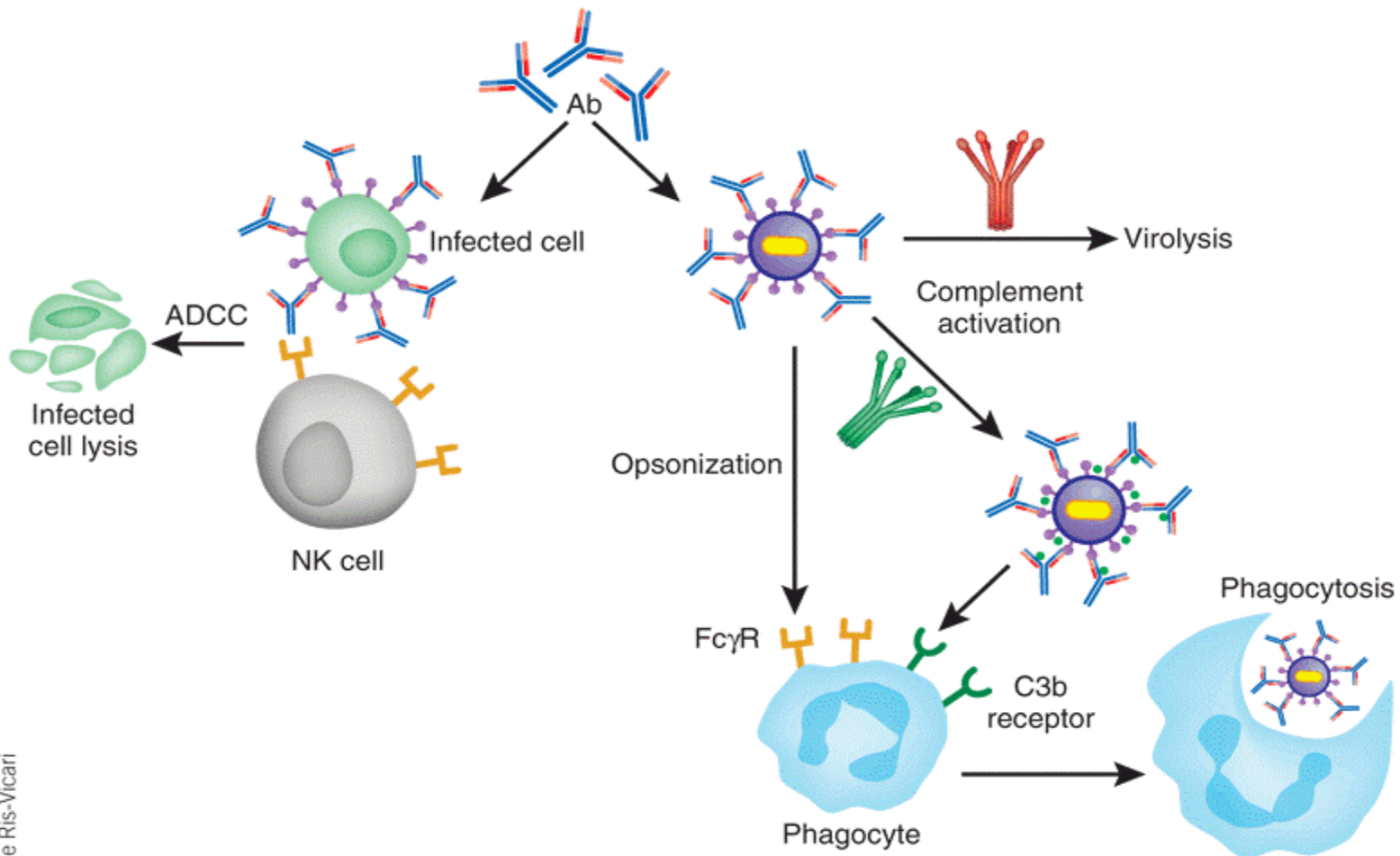
Hypersensitivity disorders

- Refers to inappropriate or excessive activation of immune system
- Disorders caused by immune responses are collectively called as **hypersensitivity reactions**
- **Four types**

Mechanism of a Type 1 Hypersensitivity Reaction



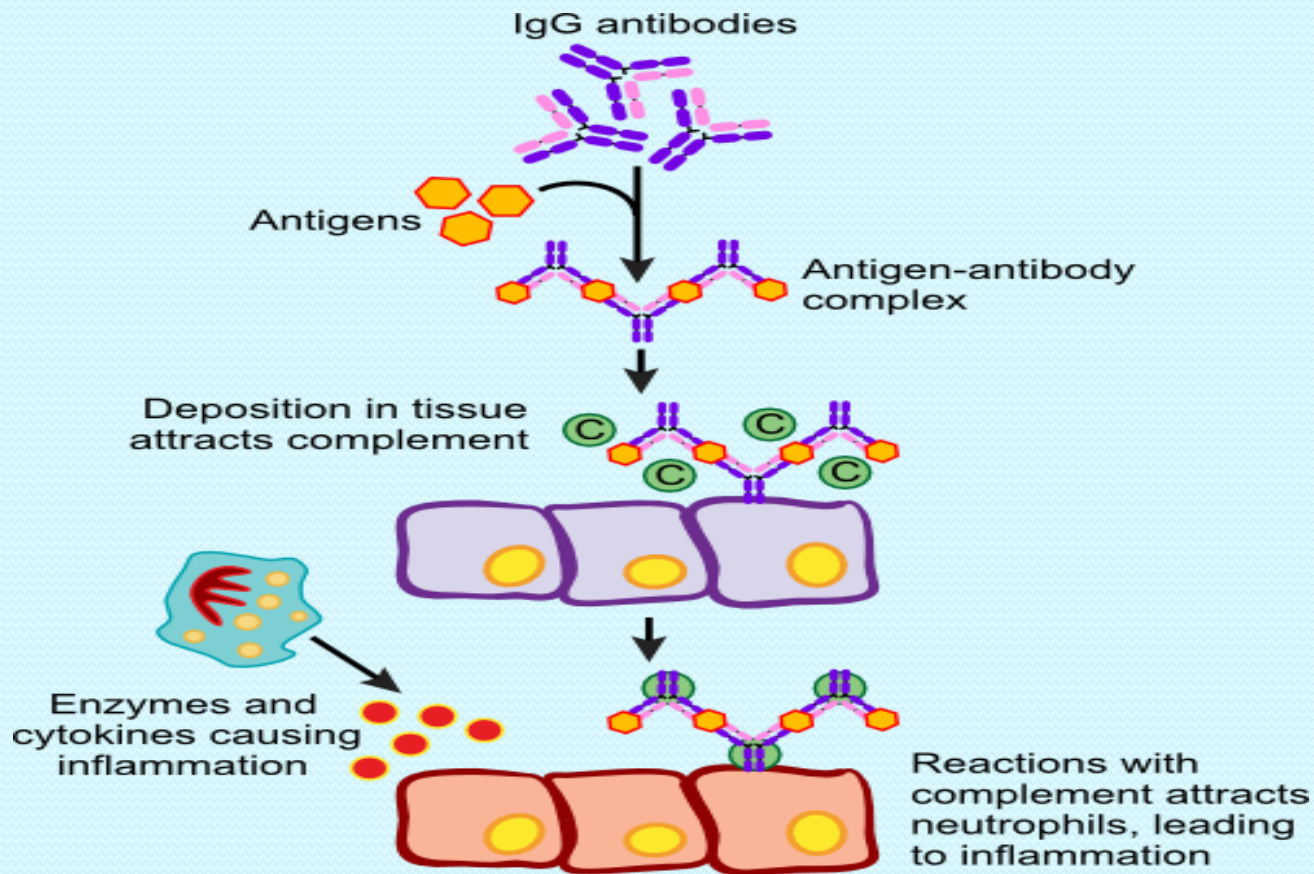
Type II antibody mediated hypersensitivity



Katie Ris-Vicari

<https://www.google.com.pk/search?q=type+2+hypersensitivity&tbm=isch&ved>

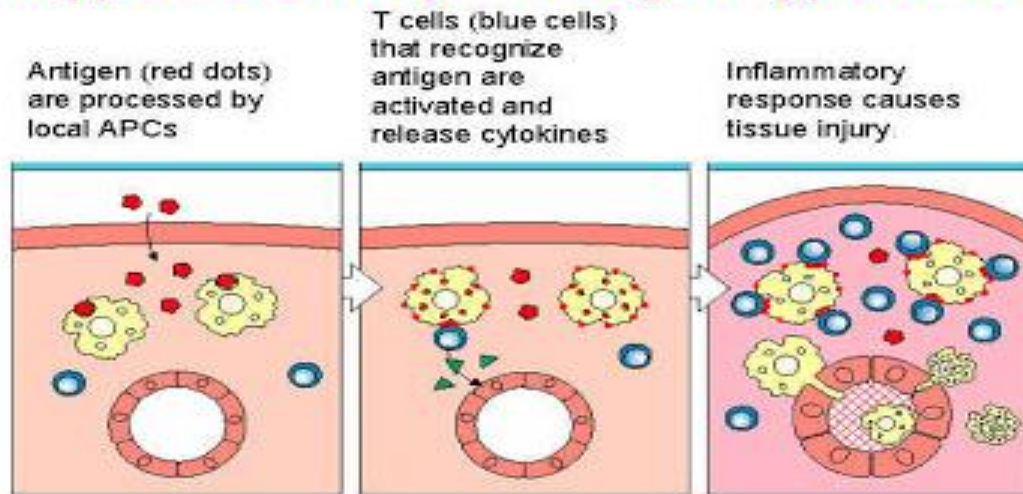
Type III immune complex mediated hypersensitivity



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Type IV CELL-mediated hypersensitivity

Type IV hypersensitivity – delayed-type or contact



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Antigen is presented by APCs to antigen-specific memory T cells that become activated and produce chemicals that cause inflammatory cells to move into the area, leading to tissue injury. Inflammation by 2-6 hours; peaks by 24-48 hours.

<https://www.google.com.pk/search?q=type+4+hypersensitivity&tbm=isch&ved=2ahUKEwiW3>