

CANCER

classmate

Date _____

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Normal cell

Loss of control over their division, differentiation & apoptosis

Tumor cell.

Benign tumor

- Neoplastic cell.
- cluster of single mass can't spread.
- function like normal cell.

Malignant tumor.

- Neoplastic cell.
- Encapsulated cell progressively invasive and spread over the body through circulation system & lymphatic system called "meta'stasis".

Characteristics	Benign	Malignant
i) Differentiation	well differentiation	lack of differentiation
ii) Rate of Growth	slow	Rapid
iii) Invasiveness (Invades surrounding normal tissue)	Absent	present
iv) Meta'stasis	Absent	present

Benign and Malignant tumor fall into 3 categories: -

- (i) Carcinoma: - arise from endoderm & ectodermal tissue.
- (ii) Sarcoma: - arise from mesodermal connective tissue.
- (iii) Leukemia/lymphoma: - from blood forming tissue and form cell of immune system.

→ Most cancers originate from single abnormal i.e. monoclonal origin.

✓ Mutation in somatic cell causes cancer i.e. not inherited.

→ 1% mutation in germinal cell i.e. inherited type. In these cancer cell about 80% dominant.

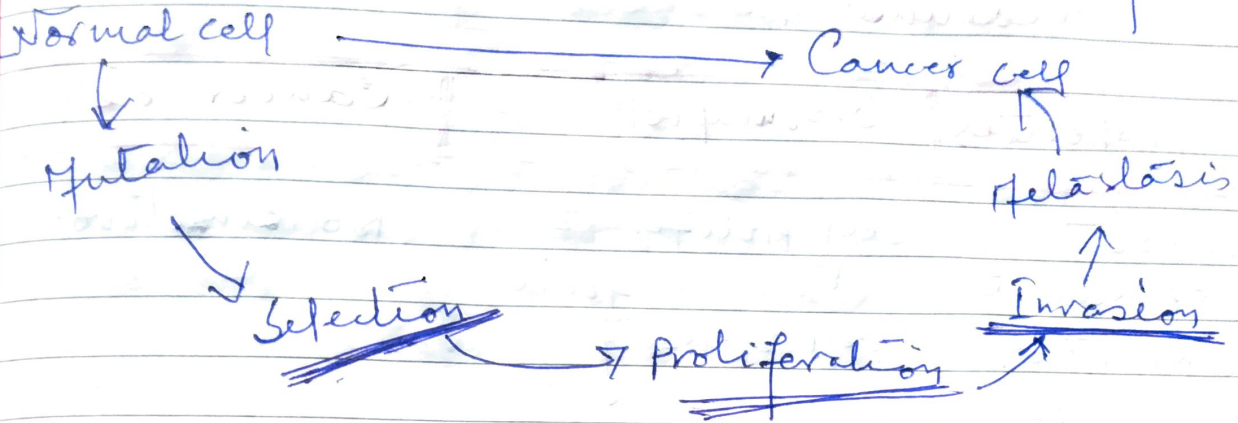
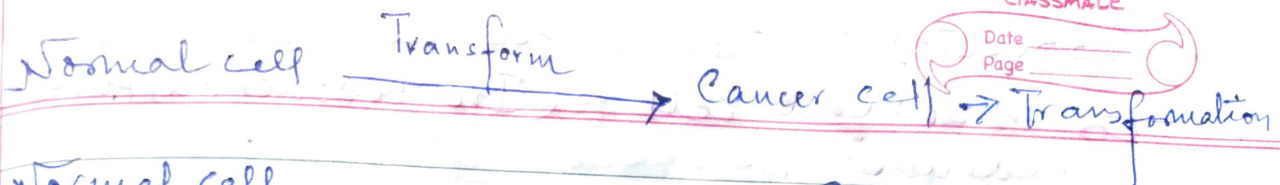
Cancer Initiation

Genetic changes

- change in DNA sequence.

Epigenetic changes

- change in gene expression without changing DNA sequence.



Steps of Metastasis -

