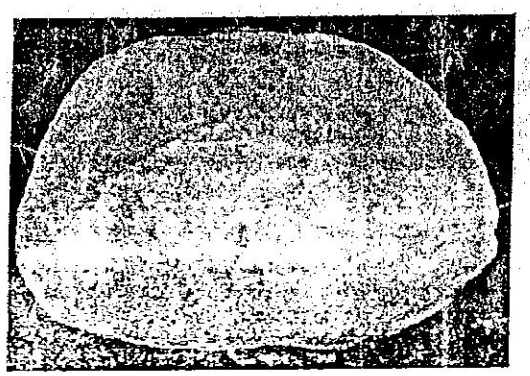
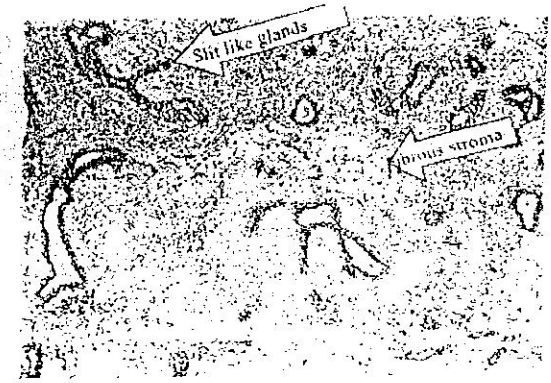
Pathology 3rd Year MBBS

SGD

Code : 20

SGD-1





Well demarcated, capsulated, nodular tumour
Micro: Compressed slit like glands in cellular stroma.

An 18yrs old female presents with solitary, discrete, movable mass in right breast which enlarges late in the menstrual cycle. On examination the lump is freely mobile and sharply circumscribed. FNAC is performed which shows slowly growing, well differentiated cells with rare mitosis and normal configuration.

1. What is the Diagnosis? fibroadenoma of (R) breast.
2. Is this mass benign or malignant? benign tumor
3. What are the differences b/w benign and malignant cells?
4. What are the four characteristics of a neoplasm?

⇒ uncontrolled excessive new growth.
- persist even after cessation of stimulus which evokes the change.

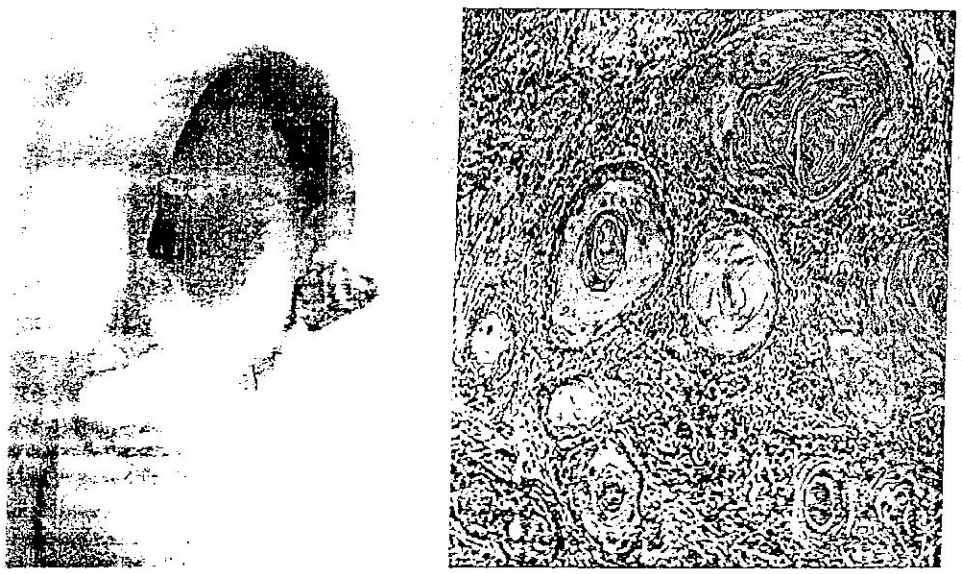
⇒ 2 components.
1) Parenchyma (neoplastic cell population)
2) stroma (connective tissue & vessels)

SGD-2

A 60 year old female presents with a firm lump in the right breast. On mammographic examination, areas of calcification are seen. Biopsy of the lump shows pleomorphic cells with hyper chromatic nuclei without invasion of the basement membrane.

1. What is the most likely diagnosis? ductal carcinoma of Breast.
2. Is this swelling benign or malignant? Malignant
3. What are the differences b/w Benign and malignant tumor?
4. What is the difference b/w hyperplastic and dysplastic cell?
5. What are the characteristics of dysplastic cell?

SGD-3



A 72-year-old man presents with a slowly growing, ulcerated lesion located on the pinna of his right ear. The lesion is excised, and histological sections reveal infiltrating groups of cells, with increased mitosis, hyper chromatic, poorly differentiated cells in the dermis. These cells have eosinophilic cytoplasm, intercellular bridges, and intracellular keratin formation.

1. What is the most likely diagnosis? Squamous cell carcinoma.
2. Is this carcinoma invasive or not? Locally Invasive.
3. What is the difference b/w dysplasia and anaplasia?

Dysplasia

- Disorganized or disordered proliferation and growth of cell
- Principally seen in epithelium.

Anaplasia

- Proliferation of cell with of differentiation
- Seen everywhere.

Cell-Free DNA Markers.

TP53, APC, RAS mutants in stool & serum — colon cancer.
TP53 RAS mutants in stool & serum — Pancreatic cancer.
TP53, RAS mutants in Sputum & serum — lungs cancer.
TP53, in urine — Bladder cancer.

SGD-1

A 50 yrs old male with h/o frequent dental treatments from a road side quack developed hepatitis C infection 20 yrs ago. He is brought to a hepatologist with weakness, fever and pain in the right hypochondrium. On USG the liver reveals a mass. The hepatologist orders a Single tumor marker to come to a diagnosis.

Tumor markers

These are the substances such as proteins, biochemicals, or enzymes produced by tumor cells or by body in response to tumor.

a) Name the tumor marker he is most likely asked for?

Serum α-fetoprotein

b) Enlist three tumor markers with their associated tumors.

Tumor Markers

CA125 - ovarian cancer
CA19-9 - colon cancer
CA153 - breast cancer

Hormones

HCG — Trophoblastic tumor. Non seminomatous testicular tumor.
Calcitonin. — Medullary Carcinoma of thyroid
Catecholamines & Metabolites — Pheochromocytoma & related tumors

oncofetal antigens

α-fetoprotein — Liver cell cancer. Hepatitis.
Carcinoembryonic Antigen — Carcinomas of colon, Pancreas, lungs, stomach, heart.

Isoenzymes.

Prostates & Phosphatase. — Prostate cancer.
Neuron-Specific enolase. — Small cell cancer of lung. Neuroblastoma.

Specific Proteins

Immunoglobulins. — Multiple myeloma

Prostate-Specific Antigen
Prostate-Specific membrane Antigen — Prostate Cancer.

SGD-2

A 24 yrs old woman with a history of heavy and painful menstrual periods has been having difficulty conceiving despite months of trying to become pregnant. Her workup included a bimanual pelvic examination and an USG, which demonstrated a mass in the uterus that was presumed to be leiomyoma.

(connective + skeletal tissues + Blood & lymph).
Bones, cartilage, Muscles, fat.

a) Enlist any four benign mesenchymal tumors, other than leiyomyoma. Fibroma, Lipoma, Chondroma, Osteoma.

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b) What is meant by GRADE of tumor explain with examples?

c) What is meant by stage of tumors? Explain with examples.

d) What are different staging systems? Explain them. AJC (TNM).