



Tumor

Neoplasia: A neoplasm, as defined by Willis, is "an abnormal mass of tissue the growth. In common medical usage, a neoplasm is often referred to as a tumor, and the study of tumors is called oncology (from oncos,"tumor," and logos, "study of").

In oncology the division of neoplasms into: - benign and malignant categories is important. This categorization is based on a judgment of a neoplasm's potential clinical behavior.

Tumor: (neoplasm) un control growth cells of tissue in body.

Causes

The great majority of cancer some 90-95% cases are due to environmental factors The remaining 5-10% are due to inherited genetics

- | | |
|-----------------------|--------------------------------|
| 1- Virus | 2- Hormone |
| 3- Parasite | 4- Chemical |
| 5- Radiation | 6- Trauma |
| 7- Transplantation | 8- Congenital during gestation |
| 9- Hereditary | 10- Age and sex |
| 11- Diet and exercise | |

Two types of tumors

- 1- Benign
- 2-Malignant (cancer)

Benign Tumors:

In general, benign tumors are designated by attaching the suffix -oma to the cell type from which the tumor arises (e.g:- A benign tumor arising in fibrous tissue



is a fibroma, a benign cartilaginous tumor is a chondroma....etc.). The nomenclature of benign epithelial tumors is more complex. They are classified sometimes on the basis of their microscopic pattern and sometimes on the basis of their macroscopic pattern. Others are classified by their cells of origin.

Examples of benign tumors include:

1. Adenomas are tumors that arise from glandular epithelial tissue, the thin membrane that covers glands, organs, and other structures in the body.
2. Fibroids, or fibromas are benign tumors that can grow on the fibrous or Fibroids connective tissue of any organ
2. Lipomas are the most common form of soft-tissue tumor

Malignant Tumors:

In malignant tumors essentially follows that of benign tumors, with certain additions and exceptions (e.g.:- Malignant neoplasms arising in mesenchymal tissue or its derivatives are called sarcomas , fibrous tissue called fibrosarcoma, and a malignant neoplasm composed of chondrocytes is a chondrosarcoma

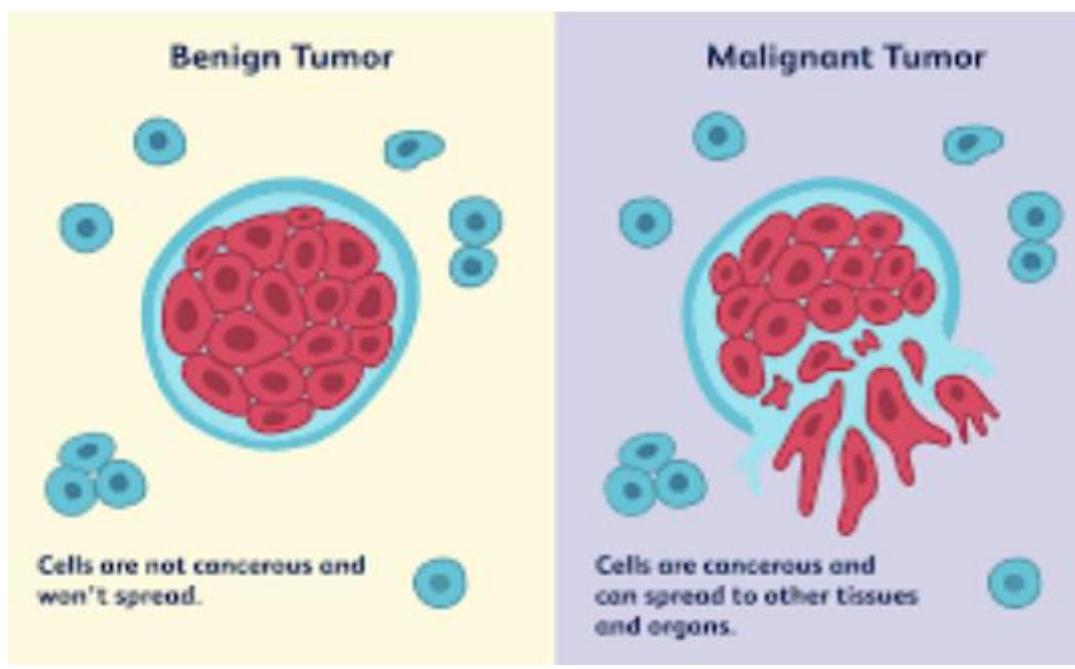
Characteristic of cancer cell

- 1- proliferate without control
- 2- the tumor cell not like the origin
- 3- Not orderly arranged
- 4- Its harmful
- 5- The cause not understood
- 6- Compete for O₂ and nutrition
- 7- Can destroy tissues
- 8- Can infiltrate during the blood vessels and lymph node
- 9- Increase the ratio of nucleus to the cytoplasm

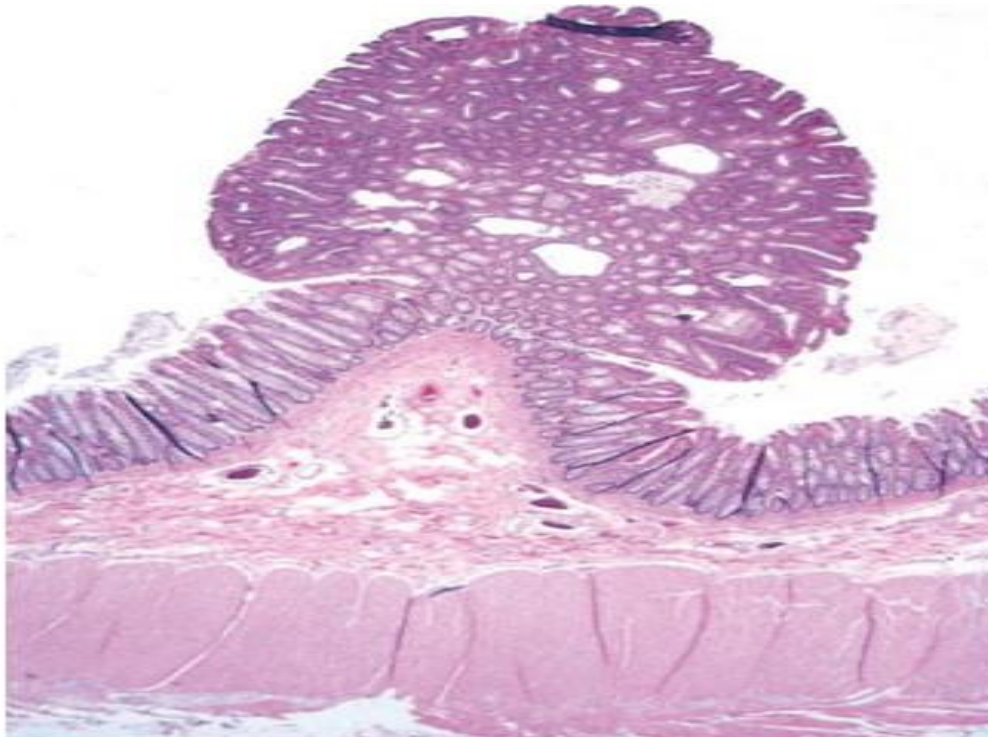
Cancer cells spread through the body in a series of steps.

These steps include:

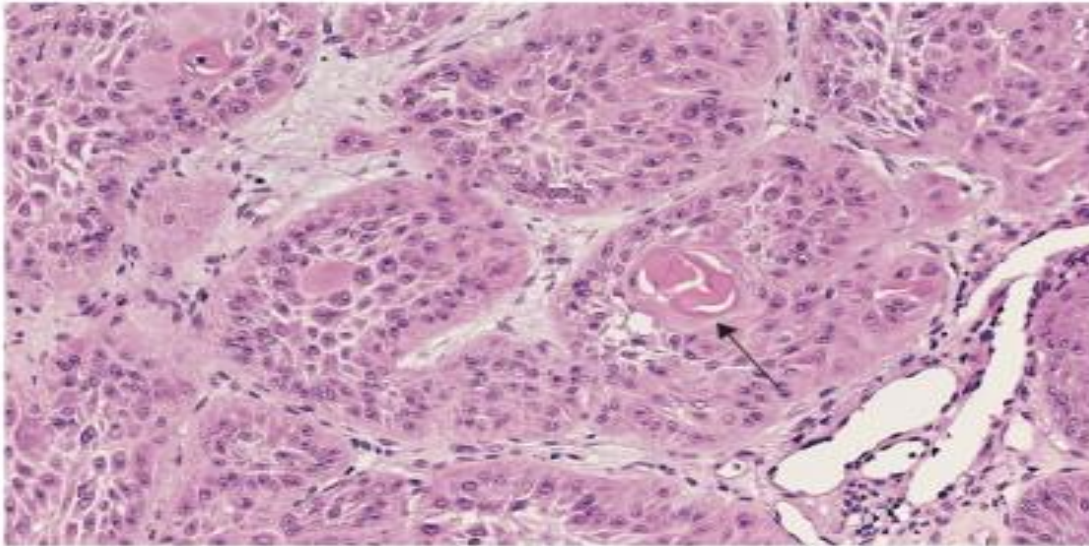
- 1-Growing into, or invading, nearby normal tissue
- 2-Moving through the walls of nearby lymph nodes or blood vessels
- 3-Traveling through the lymphatic system and bloodstream to other parts of the body
- 4-Stopping in small blood vessels at a distant location, invading the blood vessel walls, and moving into the surrounding tissue
- 5-Growing in this tissue until a tiny tumor forms 5-Causing new blood vessels to grow, which creates a blood supply that allows the tumor to continue growing



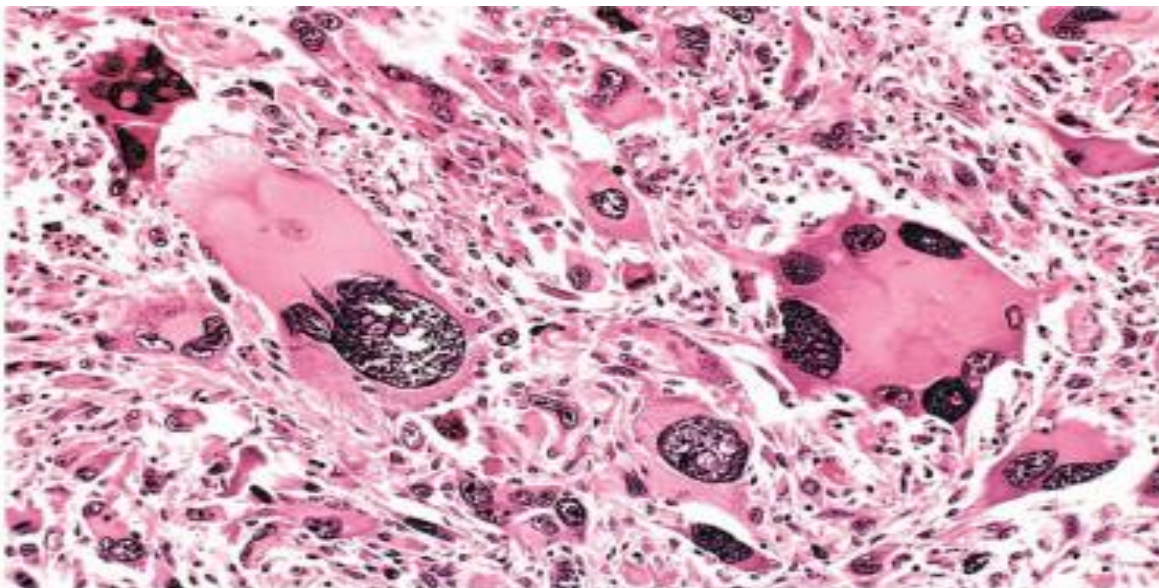
Features	Benign tumor	Malignant tumor
Periphery	Smooth, well defined, Encapsulated, corticated	Ill defined border, lack of cortication , absenc of encapsulation
Surrounding tissue	Compressed	Invaded
Size	Usually small	Often larger
Growth rate	Slow	Rapid
Spread	Direct extension	Metastasis
Location	Specific anatomic site	Anywhere
Internal structure	RO , RL , mixed	Radiolucent
Effect on surrounding	Resorb teeth root , displace teeth in a bodily fashion without causing loose teeth	Destroy supporting alveolar bone so that teeth may appear floating in space



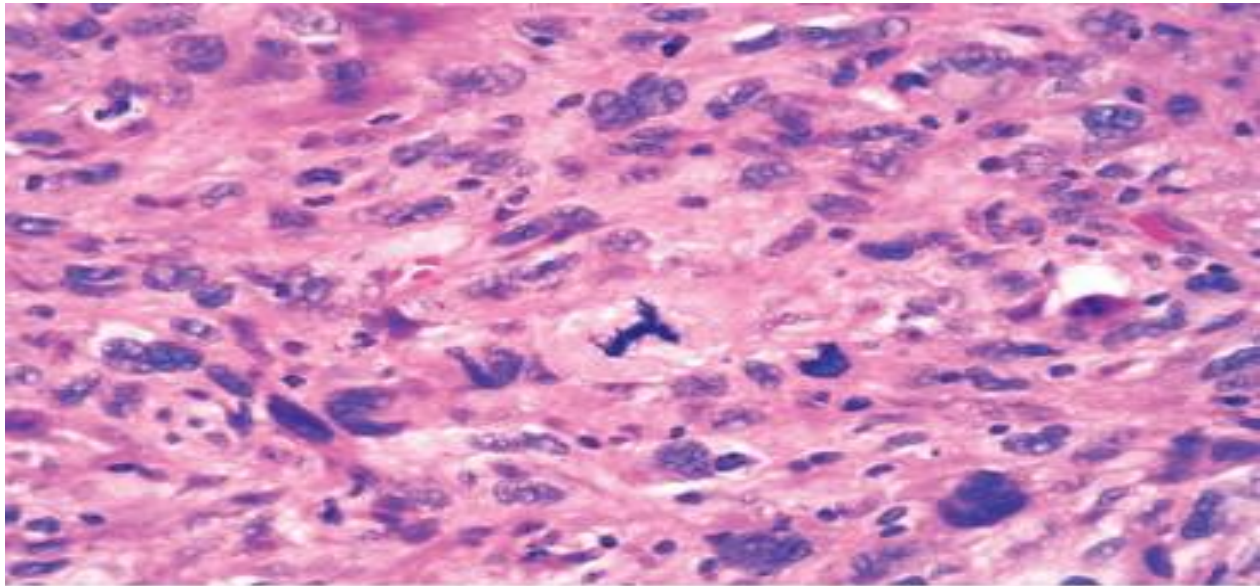
This benign glandular tumor (adenoma) is projecting into the colonic lumen and is attached to the mucosa by a distinct stalk.



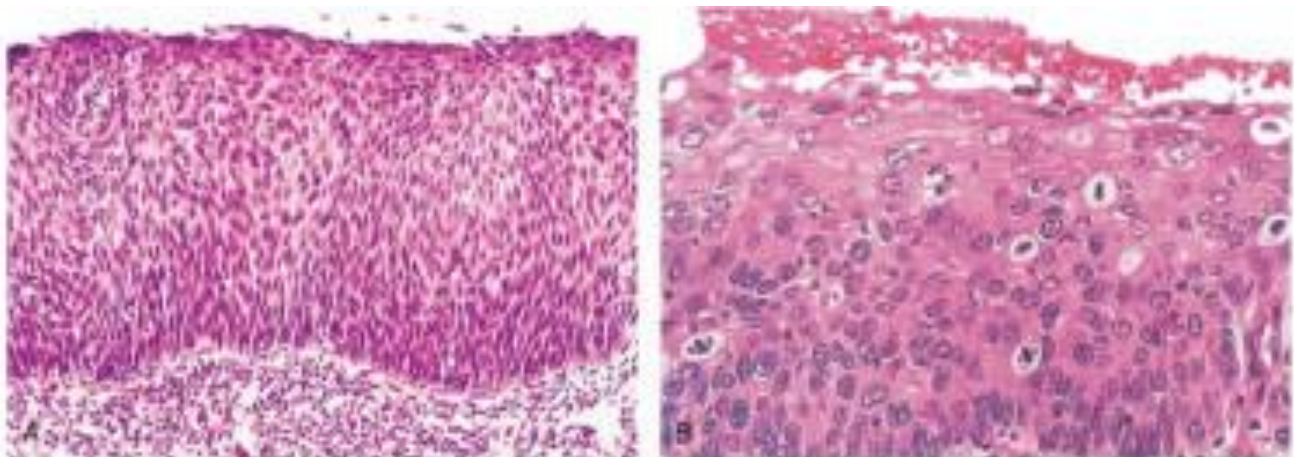
Well-differentiated squamous cell carcinoma of the skin. The tumor cells are strikingly similar to normal squamous epithelial cells, with intercellular bridges and nests of keratin pearls (arrow).



Anaplastic tumor of the skeletal muscle (rhabdomyosarcoma). Note the marked cellular and nuclear pleomorphism, hyper-chromatic nuclei, and tumor giant cells.



High-power detail view of anaplastic tumor cells shows cellular and nuclear variation in size and shape. The prominent cell in the center field has an abnormal tripolar spindle.



A. Carcinoma in situ. Low-power view shows the entire thickness of the epithelium is replaced by atypical dysplastic cells. There is no orderly differentiation of squamous cells. The basement membrane is intact, and there is no tumor in the subepithelial stroma. **B.** High-power view of another region shows failure of normal differentiation, marked nuclear and cellular pleomorphism, and numerous mitotic figures extending toward the surface.