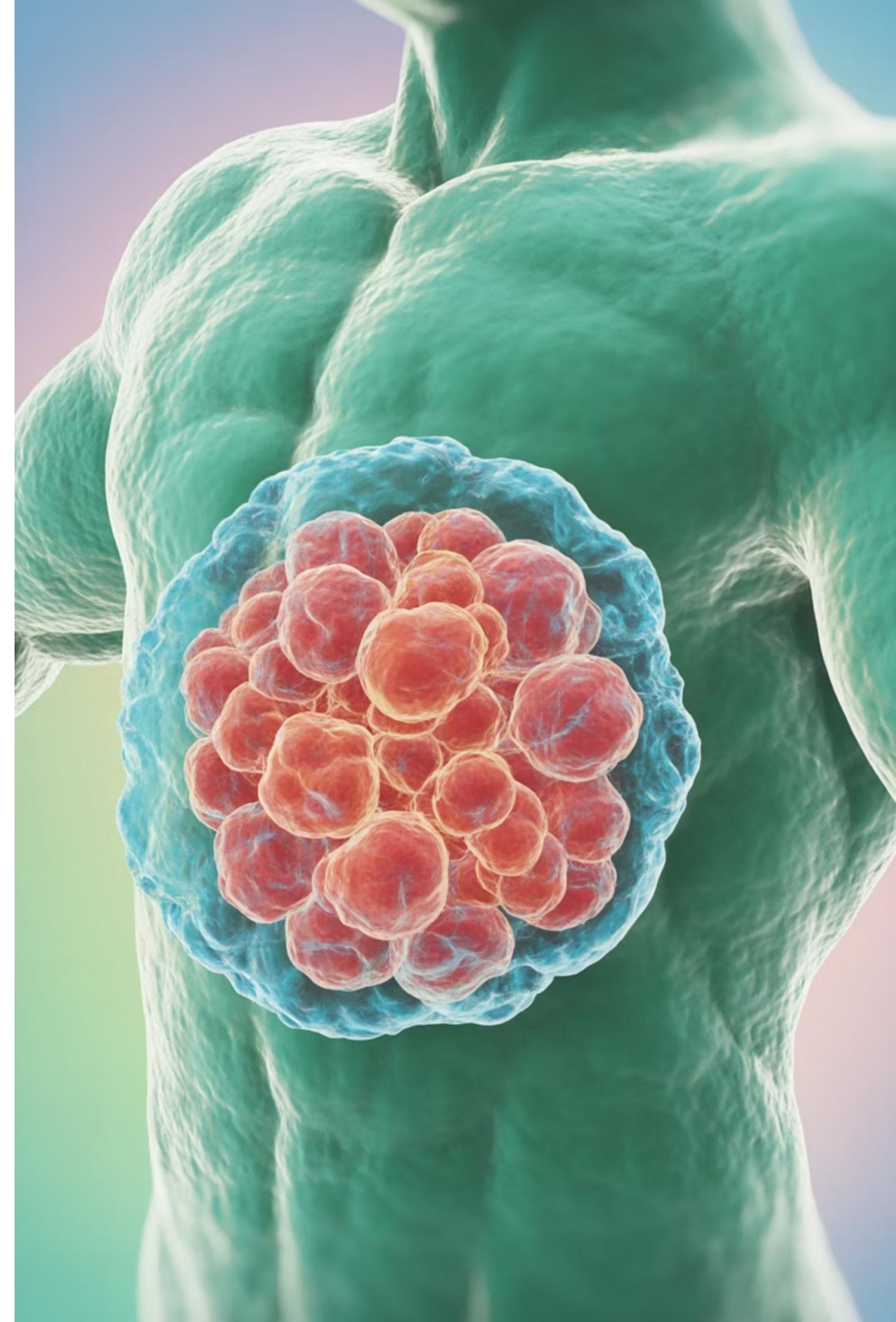


TUMOR

Dr. Shaymaa Adil



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

Two Types of Tumors

1- Benign

Non-cancerous growths that typically remain localized and do not spread to other parts of the body

2- Malignant (cancer)

Cancerous growths that can invade surrounding tissues and spread throughout the body

Benign Tumors

Examples of benign tumors include:

Adenomas

Adenomas are tumors that arise from glandular epithelial tissue, the thin membrane that covers glands, organs, and other structures in the body.

Fibroids, or fibromas

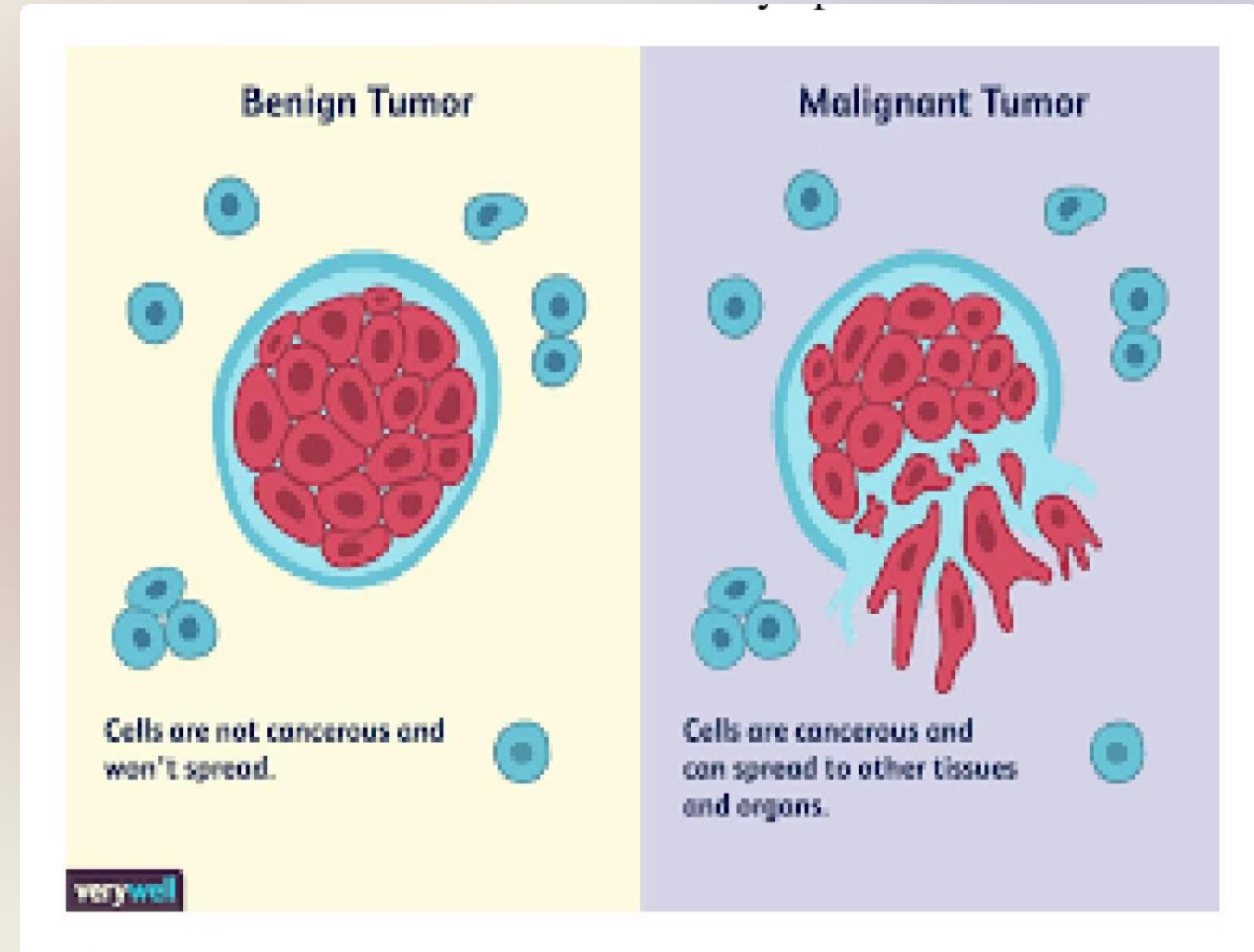
are benign tumors that can grow on the fibrous or Fibroids connective tissue of any organ

Lipomas

Lipomas are the most common form of soft-tissue tumor

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



Additional Cancer Cell Characteristics

- 6- Compete for O₂ and nutrition
- 7- Can destroy tissues
- 8- Can infiltrate during the blood vessels and lymph nod
- 9- Increase the ratio of nucleus to the cytoplasm

Causes

The great majority of cancer some 90-95% cases are due to environmental factors

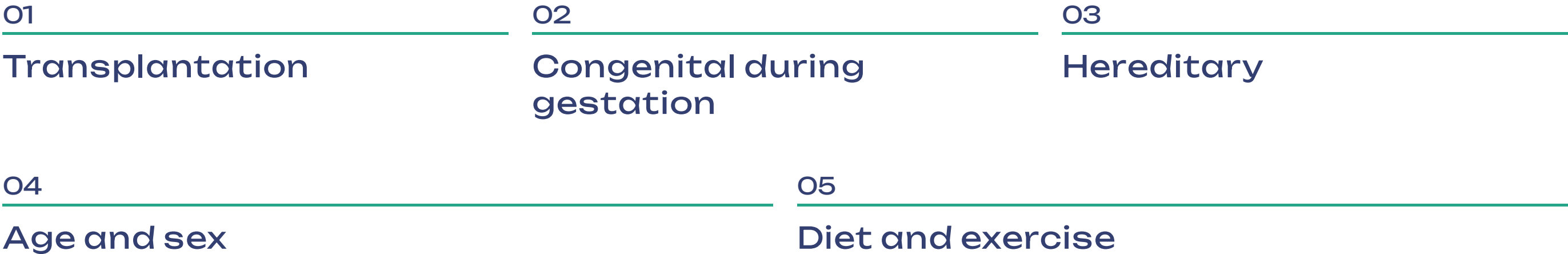
The remaining 5-10% are due to inherited genetics



Environmental and Genetic Factors



Additional Contributing Factors



How Cancer Cells Spread

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



3-Stopping in small blood vessels at a distant location, invading the blood vessel walls, and moving into the surrounding tissue

Final Stages of Cancer Spread

1

4-Growing in this tissue until a tiny tumor forms

2

5-Causing new blood vessels to grow, which creates a blood supply that allows the tumor to continue growing

Benign vs Malignant Tumors

Features	Benign tumor	Malignant tumor
Periphery	Smooth, well defined, Encapsulated, corticated	Ill defined border, lack of cortication, absence 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

Neoplasia

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.

Benign Tumors

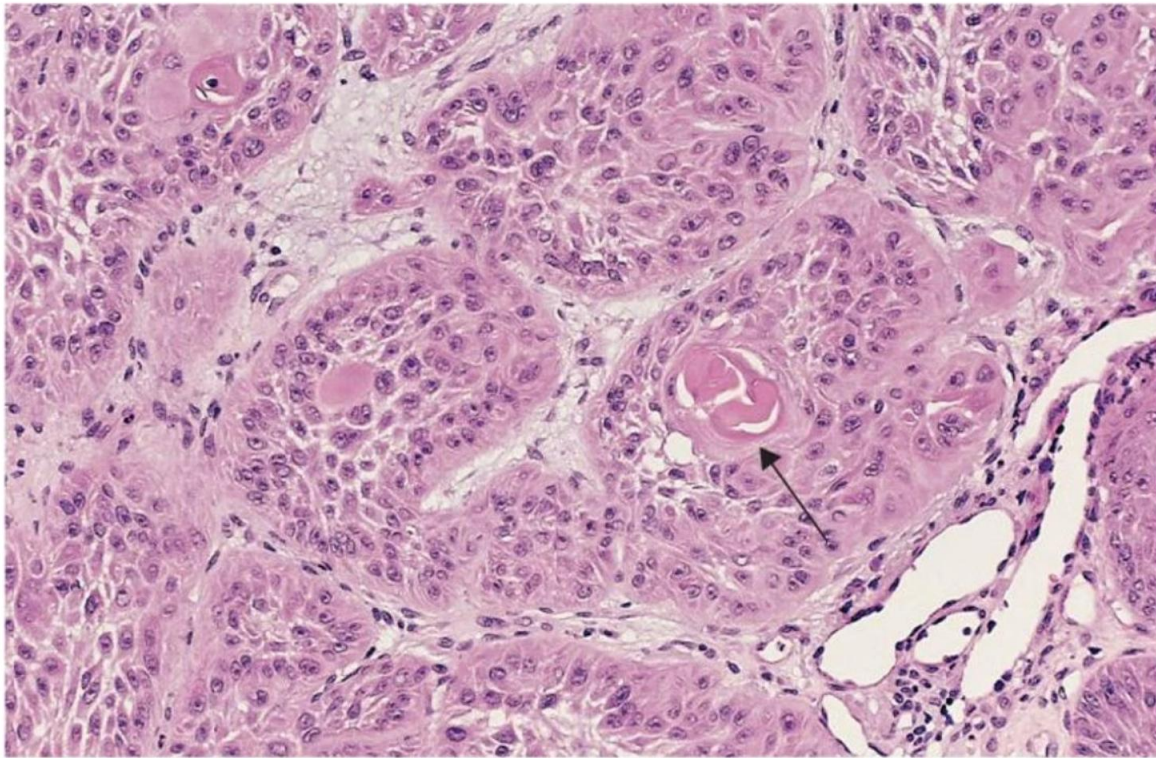
In general, benign tumors are designated by attaching the suffix -oma to the cell type from which the tumor arises (e.g.- A benign tumor arising in fibrous tissue is a fibroma, a benign cartilaginous tumor is a chondroma....etc.). The nomenclature of benign epithelial tumors is more complex. They are 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.

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

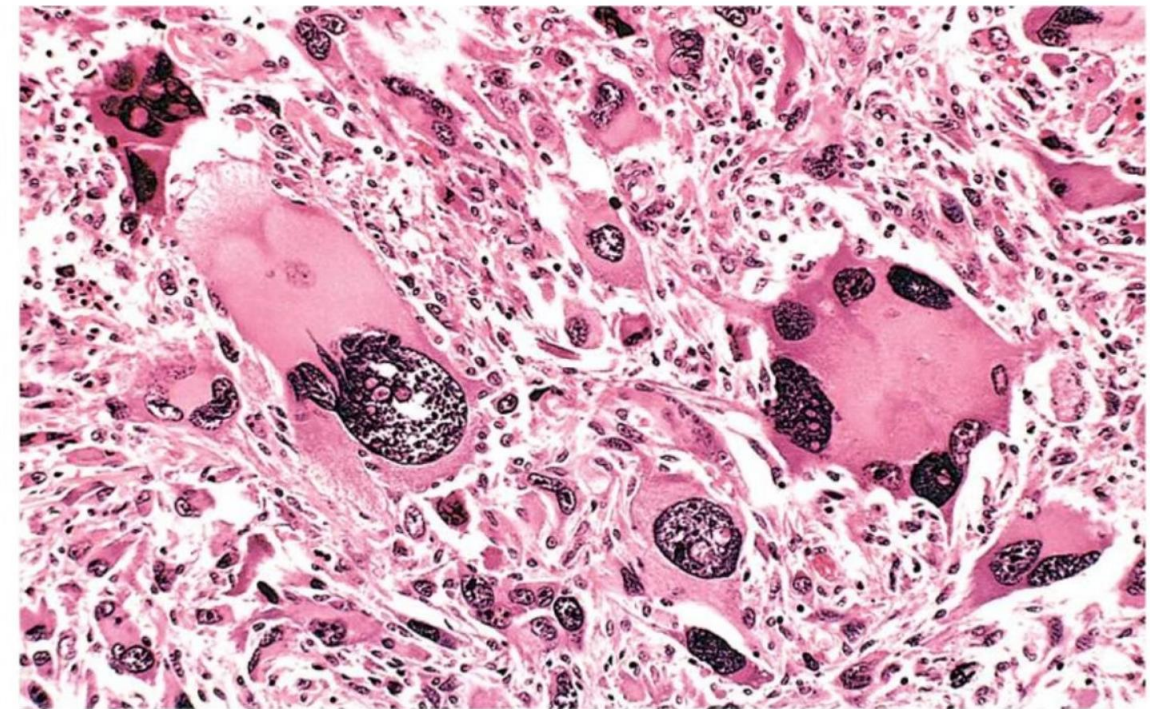


Malignant Tumors

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).

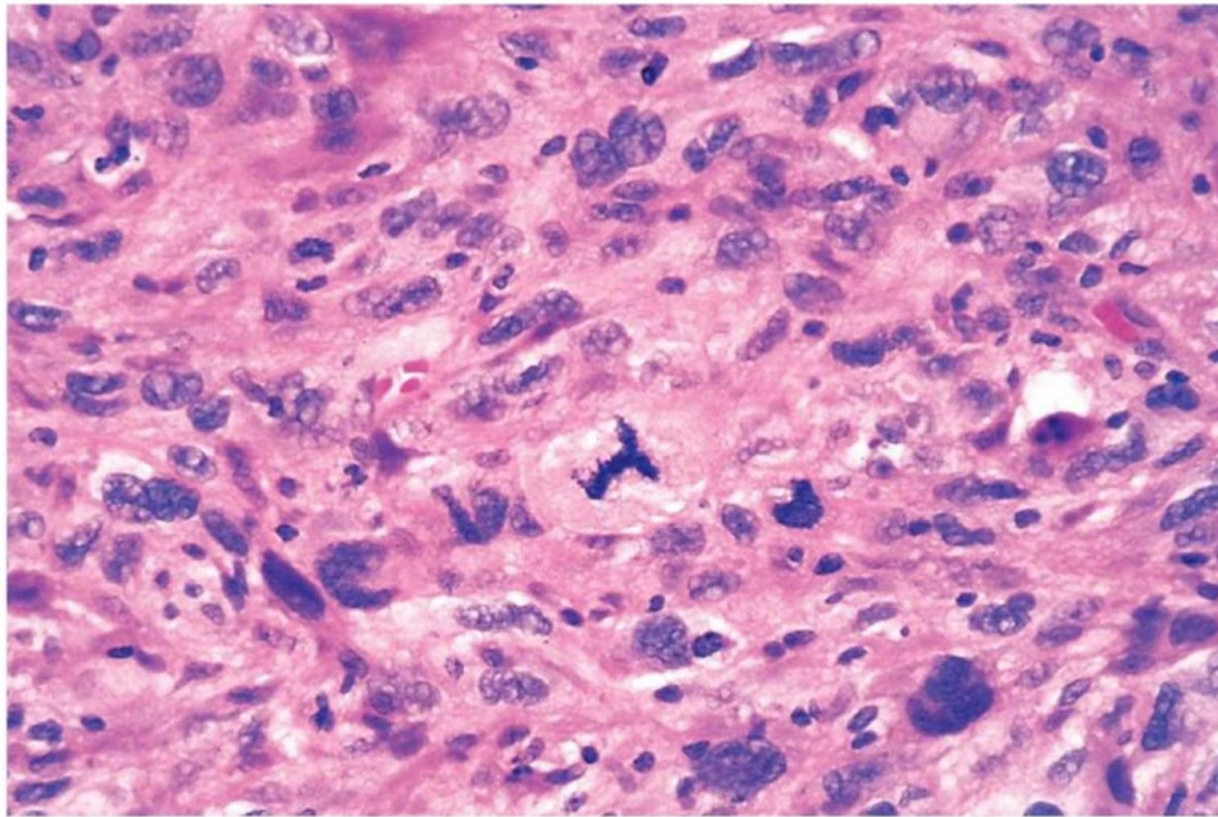


Well-differentiated squamous cell carcinoma of the skin. The tumor cells are strikingly similar to normal squamous epithelial cells, with intercellular bridges and nests of keratin pearls (arrow).

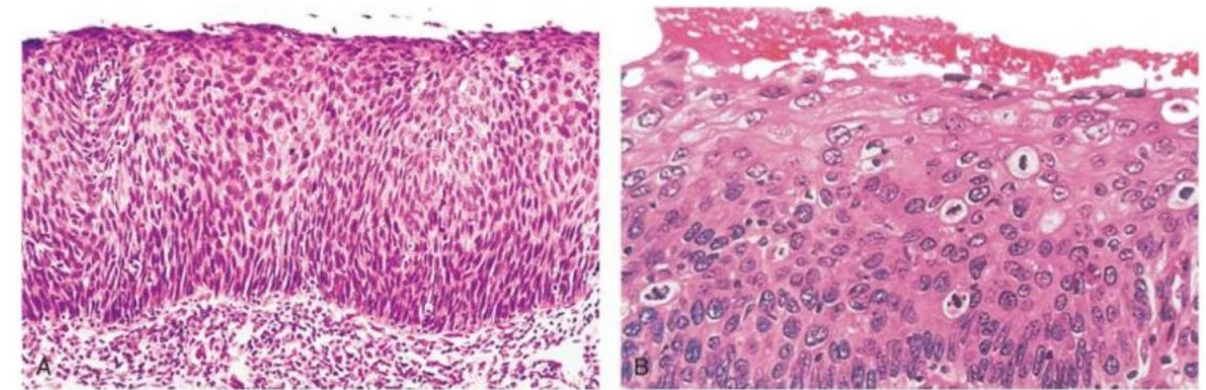


Anaplastic tumor of the skeletal muscle (rhabdomyosarcoma). Note the marked cellular and nuclear pleomorphism, hyper-chromatic nuclei, and tumor giant cells.

Cellular Characteristics of Malignant Tumors



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.