



“बेटी बचाओ, बेटी पढ़ाओ”

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(Format for Preparing E Notes)

Faculty of physiotherapy & diagnostics

Faculty Name- JV'n Ankita
Program- M.Sc. Zoology 3rd Semester
Course Name - Cancer & Radiation biology
Session No. & Name – Type of Cancer

Program Outcome-It plays an important role in health sector, provides knowledge about the treatment of patient by the help of physiotherapy.

Course Outcome- Understand the fundamentals and basic physics which is used or responsible for the imaging process in medical sector and how to do the image interpretation.

Academic Day starts with –Greeting with saying ‘**Namaste**’ by joining Hands together following by 2-3 Minutes Happy session, Celebrating birthday of any student of respective class and **National Anthem**.

Review of previous Session- **Basics & Symptoms of Cancer**

Today We will discuss about- **Type of Cancer**.

Lesson deliverance (ICT, Diagrams & Live Example)- ICT, Diagrams

➤ Diagrams

Introduction & Brief Discussion

Types of tumor:-

A tumor is a collection of cells that form an abnormal mass of tissue. If you're diagnosed with a tumor, your doctor will first determine whether it's benign or malignant.

Benign tumors, while sometimes painful and potentially dangerous, don't pose the same threat as malignant tumors. While benign tumors generally don't invade and spread, malignant cells are more likely to metastasize, or travel to other areas of the body. They also grow faster.

What's a benign tumor?

Benign tumors aren't cancerous and are usually not life-threatening. But like their malignant cousins, they develop when cells grow abnormally, and they may form anywhere in the body, though benign cells don't typically invade nearby tissue or spread—they're contained to the tumor.

Do benign tumors require treatment?

In general, benign tumors grow slowly, and some never need treatment. Others may cause serious health risks when they press on nearby organs, nerves or blood vessels, or grow in the brain or on the spinal cord. These kinds of tumors typically require surgery to remove. Once they are removed, most benign tumors don't grow back.

The doctor may decide to closely watch a benign tumor to see whether it grows to the point that it causes problems before it's surgically removed. This approach, called active surveillance, helps delay or even avoid surgery completely.

Can benign tumors become cancers?

Some benign tumors also have the potential to become cancerous when abnormal cells continue to divide out of control. These kinds of tumors are also carefully watched. If normal-looking cells are reproducing faster than normal—a process called hyperplasia—for example, the tumor will be closely monitored. If abnormal-looking cells reproduce faster than normal and but may appear abnormal—called dysplasia—the tumor will be watched even more carefully.

Types of benign tumors

Common types of benign tumor include:

- Adenomas: These bumps most commonly form on the surfaces of the gastrointestinal, or GI, tract.
- Fibromas: These connective tissue tumors may be found in any organ. Fibroid tumors are named for where they form in the body, such as uterine fibroids.
- Desmoid tumors: These are often more aggressive than most benign tumors and may invade nearby tissue and organs. But they don't metastasize.
- Hamartomas: These tumors may develop in the lungs, heart, skin, brain or breast.
- Hemangiomas: These tumors are a collection of blood vessel cells in the skin or internal organs. They may appear on the skin as a birthmark-like discoloration and often disappear on their own.
- Lipomas: These soft, round, fatty tumors are often found on the neck or shoulders.
- Leiomyomas: The most common gynecologic tumors in the United States, these may be found in the uterus. Their growth is fueled by hormones.
- Myomas (fibroids): These common tumors are often found in the uterus, developing in the smooth tissue lining.
- Papillomas: These tumors grow from tissue lining the skin and organs. They usually grow outward and form lesions.

What is malignant tumor ?

Malignant tumors form when cancerous cells multiply and develop into a mass. Unlike benign tumors, cancer cells may invade nearby tissue. They may also break off from tumors and spread throughout the body, in a process called metastasis.

When cancer does spread, it's important to know where it originated because this behavior affects treatment decisions. "Is it primary lung cancer or metastatic disease from somewhere else?" says Peter Baik, DO, FACOS, FACS, Thoracic Surgeon at City of Hope in Phoenix and Chicago. "The treatment is definitely different depending on the answer."

If cancerous tumors detected in the chest wall began there, for example, the doctor may be able to remove the cancer with surgery. But if the tumors spread there after forming somewhere else in the body, the patient may need a systemic (whole-body) treatment like chemotherapy first, Dr. Baik says.

Common malignant tumor types include:

- Carcinomas: These are the most common malignant tumor types. They develop in epithelial cells, which line the inner surface of the body. Carcinomas include different types, including adenocarcinomas, basal cell carcinomas and squamous cell carcinomas.
- Sarcomas: These malignant tumors form in the bones and in soft and fibrous tissues, including tendons, ligaments, fat and muscle.
- Germ cells: These tumors begin in cells that produce eggs or sperm. They most often occur in the ovaries or testicles, but they may also develop in the abdomen, brain or chest.
- Blastomas: Blastomas form in embryonic tissue and developing cells in the eyes, brain or nervous system.

Benign vs. malignant tumors: The key differences

The main differences between most benign and malignant tumors include those below.

Benign tumors	Malignant tumors
Not cancerous	Cancerous
Don't invade surrounding tissue	May invade surrounding tissue
Don't spread to other parts of the body	May spread to other parts of the body
Grow slowly	Grow quickly
Are not likely to recur	Are more likely to recur
Have a smooth, regular shape	May have an uneven shape
Move around when pushed on	Don't move around when pushed on
May or may not require treatment	Require treatment

University Library Reference-

- The Physics Of Radiology and Imaging by K. THAYALAN
- Textbook of Radiology for Residents and Technicians by S. K. BHARGAVA
- **Suggestions to secure good marks to answer in exam-**
 - Explain answer with key point of the answers

Questions to check understanding level of students-

- HOW MUTATION OCCURS IN A NORMAL CELL SO THAT IT BECOMES CANCEROUS ?
- WHAT ARE THE SYMPTOMS OF CANCER ?
- Next Topic- **MECHANISIM OF METASTASIS .**
- National song' Vande Mataram'.