RAMA UNIVERSITY

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FACULTY OF NURSING

UNIT - 5TH ONCOLOGY

SURGICAL NURSING 2ND

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INTRODUCTION

- **Oncology is the study of cancer. Cancer is a disease in which cells reproduce uncontrollably, forming lumps called tumors that may grow and spread to other parts of the body. The word oncology comes from the Greek words *onkos*, meaning "tumor", and *logos*, meaning "study". An oncologist is a doctor that treats cancer.**

DEFINITION

- Oncology is a branch of medicine concerned with the prevention, diagnosis, treatment and study of cancer.

- A medical professional who practice in oncology is an oncologist.
- In clinical oncology there are three primary branch:
- 1: Medical oncology (chemotherapy)
- 2:Surgical oncology
- 3:Radiation oncology

- **MEDICAL ONCOLOGY**: The treatment of cancer with medicine including chemotherapy.
- **SURGICAL ONCOLOGY:** The surgical aspect of cancer including biopsy and surgical resection of tumor.
- **RADIATION ONCOLOGY:**The treatment of cancer with therapeutic radiation

STRUCTURE AND CHARECTERISTICS OF NORMAL & CANCER CELLS

- **HAVE WELL REGULATE GROWTH**: Normal cell only divide to either develop normal tissue or replace lost or damage tissue.
- **HAVE DESIGNED APPEARANCE**: Each type of normal cell has a client and recognisable appearance.
- **HAVE SPECIFIC DEFFERENTIATE FUNCTION**: Each cellular has atleast has special function.

- **JOINT TIGHT TOGETHER** : normal cells bind closely together because they secret surface protein .

- **DO NOT MIGRATE** : Because normal cells are bound together the do not migrate one tissue to another tissue.

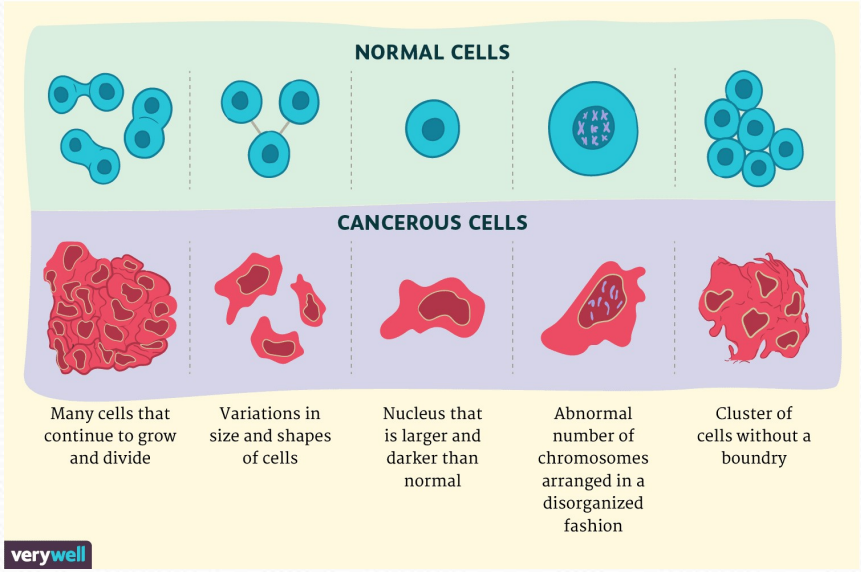
SHOW CONTACT INHIBITORS : cell division only occur if require.

CHRACTERISTICS OF CANCERS CELLS

- **CHARACTERISTICS OF BENIGN CELL:** Some abnormal cells are consider benign even through they can from a tumor.
- Have in appropriate cell growth
- Show small nucleus to cytoplasm ratio
- Have designated appearance
- Have specific differentiate function
- Do not migrate

CHARACTERISTICS OF MALIGNANT CELLS

- A malignant tumor composed of cell that invade the basement membrane and invade or spread one part to another part of the body.
- Have continue cell division and poorly control growth
- Do migrate (metastatic) joint together
- Malignant cells has no useful function they are always harmful to body tissue



NURSING ASSESSMENT-HISTORY AND PHYSICAL ASSESSMENT

- A careful and effective assessment of patient present and past surgical history should be obtained a complete physical examination both objective or subjective data.
- Anorexia, weight loss, anaemia, fatigue, metabolic ulteration, pain are assess during physical examination and assessment pain is not early sign of cancer but it can occurs as a result of obstruction and destruction.
- By assessment will assess the health team to build paln of cure relavent to the patient's needs, monitor laboratary WBC count or RBC count monitor patient's weight and note complain of nausea patient's change in taste vometing and diarrhoea also monitor the dehydration sign.

- Psychological issues related to cancer are as vary as the person affected with disease help the patient explore perception about quality of life culture and age affect cancer perception determine what information the patient has recieve understand about his or her disease prognosis assess the role of patient and care given in the family.

PREVENTION, SCREENING, EARLY DETECTION, AND WARNING SIGN OF CANCER

- **CANCER PREVENTION:** Cancer prevention is action taken to lower to change of getting cancer by preventing cancer no. of new cases of cancer in a group or population is lower atleast third of all cancer case are preventable.
- Tobacco is largest preventable cause of cancer in the world
- In cause 80%-90% of all lung cancer death and about 30% of all cancer death in the world
- Dietary modification is another important approaches to cancer control.

CANCER SAFEGAURDS

- **Lungs:** do not smoking
- **Colerectal:** have procto scope exam as part of regular checkup after age 40
- **Breast:** practice monthly breast self examination
- **Uterus**: have of pap test as part of regular checkup
- **Skin:** avoid exposure to the sun
- **Oral:** have of regular mouth examination by dentist
- **Complete body:** have an overall physically chekup 3 years intervales

WARNING SIGNS OF CANCER

- **C:** changes in bowel and bladder activity
- **A:** any sore does not heal
- **U:** unusual bleeding
- **T:** thickening of any lump
- **I:** indigestion
- **O:** obvious changes in wart or mole
- **N:** nagging cough or hoarseness

SCREENING AND EARLY DETECTION OF CANCER

- Screening means looking for early sign of particular disease in healthy people who do not any symptoms
- Screening for cancer aim to find cancer as early as possible when the chances of cure is highest so cancer screening aim to prevent cancer are detective as early as
- Early detection refers to and attempt to diagnose cancer is a curable stage where cancer screening is just one of the strategy used to achieve his goal
- Screening for cancer involve the use of examination and physical test to search and identify disease in a symptomatic person

AMERICAN CANSER SOCIETY GUIDELINE FOR THE EARLY DETECTION OF CANCER

- Screening tests are used to find cancer before a person has any symptoms. Here are the American Cancer Society's recommendations to help guide you when you talk to your doctor about screening for certain cancers.
- **Breast cancer**
- Women ages 40 to 44 should have the choice to start annual breast cancer screening with mammograms (x-rays of the breast) if they wish to do so.
- Women age 45 to 54 should get mammograms every year.
- Women 55 and older should switch to mammograms every 2 years, or can continue yearly screening.
- Screening should continue as long as a woman is in good health and is expected to live 10 more years or longer.
- All women should be familiar with the known benefits, limitations, and potential harms linked to breast cancer screening.
- Women should also know how their breasts normally look and feel and report any breast changes to a health care provider right away.

Colon and rectal cancer and polyps

- For people at average risk for colorectal cancer, the American Cancer Society recommends starting regular screening at age 45 This can be done either with a sensitive test that looks for signs of cancer in a person's stool (a stool-based test), or with an exam that looks at the colon and rectum (a visual exam). Talk to your health care provider about which tests might be good options for you, and to your insurance provider about your coverage. No matter which test you choose, the most important thing is to get screened.

- If you're in good health, you should continue regular screening through age 75.

- For people ages 76 through 85, talk with your health care provider about whether continuing to get screened is right for you. When deciding, take into account your own preferences, overall health, and past screening history.

- People over 85 should no longer get colorectal cancer screening.

- If you choose to be screened with a test other than colonoscopy, any abnormal test result needs to be followed up with a colonoscopy.

Cervical cancer

- Cervical cancer testing should start at age 21. Women under age 21 should not be tested.
- Women between the ages of 21 and 29 should have a Pap test done every 3 years. HPV testing should not be used in this age group unless it's needed after an abnormal Pap test result.
- Women between the ages of 30 and 65 should have a Pap test plus an HPV test (called "co-testing") done every 5 years. This is the preferred approach, but it's OK to have a Pap test alone every 3 years.
- Women over age 65 who have had regular cervical cancer testing in the past 10 years with normal results should not be tested for cervical cancer. Once testing is stopped, it should not be started again. Women with a history of a serious cervical pre-cancer should continue to be tested for at least 20 years after that diagnosis, even if testing goes past age 65.
- A woman who has had her uterus and cervix removed (a total hysterectomy) for reasons not related to cervical cancer and who has no history of cervical cancer or serious pre-cancer should not be tested.
- All women who have been vaccinated against HPV should still follow the screening recommendations for their age groups.

- Some women – because of their health history (HIV infection, organ transplant, DES exposure, etc.) – may need a different screening schedule for cervical cancer. Talk to a health care provider about your history.

Endometrial cancer

- The American Cancer Society recommends that at the time of menopause, all women should be told about the risks and symptoms of endometrial cancer. Women should report any unexpected vaginal bleeding or spotting to their doctors.

- Some women – because of their history – may need to consider having a yearly endometrial biopsy. Please talk with a health care provider about your history.

Lung cancer

- The American Cancer Society recommends yearly lung cancer screening with a low-dose CT scan (LDCT) for certain people at higher risk for lung cancer who meet the following conditions:
- Are aged 55 to 74 years and in fairly good health
  and
- Currently smoke or have quit smoking in the past 15 years
  and
- Have at least a 30 pack-year smoking history. (A pack-year is 1 pack of cigarettes per day per year. One pack per day for 30 years or 2 packs per day for 15 years would both be 30 pack-years.)
- Before getting screened, you should talk to your health care provider about:
- Your risk for lung cancer
- How you can quit smoking, if you still smoke
- The possible benefits, limits, and harms of lung cancer screening
- Where you can get screened
- You should also talk with your insurance provider about your coverage.

Prostate cancer

- The American Cancer Society recommends that men make an informed decision with a health care provider about whether to be tested for prostate cancer. Research has not yet proven that the potential benefits of testing outweigh the harms of testing and treatment. We believe that men should not be tested without first learning about what we know and don't know about the risks and possible benefits of testing and treatment.

- Starting at age 50, men should talk to a health care provider about the pros and cons of testing so they can decide if testing is the right choice for them.

- If you are African American or have a father or brother who had prostate cancer before age 65, you should have this talk with a health care provider starting at age 45.

- If you decide to be tested, you should get a PSA blood test with or without a rectal exam. How often you're tested will depend on your PSA level.

STAGING OF CANCER

- **Stage o or carcinoma in situ**. Carcinoma in situ is considered pre-malignant or pre-cancer. Abnormal cells are found only in the first layer of cells in the place where the changes first started. The cells do not invade the deeper tissues. These cells may become cancer over time, so it's good to find and treat them before that happens. Most kinds of cancer do not use this stage.

- **Stage I**. Cancer is only in the cells where it first started and the area is small. This is considered early stage and most curable.

- **Stage II**. Cancer is in the organ where it first started. It may be a bit larger than stage I and or may have spread to nearby lymph nodes.

- **Stage III**. Cancer in the organ where it first started. It may be larger than stage II and may have spread to nearby lymph nodes and/or other nearby tissues, organs, or structures.

- **Stage IV**. Cancer has spread to organs in other parts of the body (**metastasized**). There may be cancer indifferent organs, but it's still the same type of cancer as where it first started. For instance, colon cancer that spreads to the liver is not liver cancer, it's stage IV colon cancer with liver metastasis. The cancer cells in the liver look like the cancer cells in the colon and are treated like colon cancer

T.N.M CLASSIFICATION

- **T.N.M** classification which is frequently use T.N.M staging for solid tumor malignancy

- **T:** Tumor size
- **N:** Regional lymph node involvement
- **M:** Metastatic

- **T**: size or direct extent of the primary tumor
  - Tx: tumor cannot be assessed
  - Tis: carcinoma in citu
  - To: no evidence of tumor
  - T1, T2, T3, T4: size and/or extension of the primary tumor

- **N:** degree of spread to regional lymph nodes
  - Nx: lymph nodes cannot be assessed
  - No: no regional lymph nodes metastasis
  - N1: regional lymph node metastasis present; at some sites, tumor spread to closest or small number of regional lymph nodes
  - N2: tumor spread to an extent between N1 and N3 (N2 is not used at all sites)
  - N3: tumor spread to more distant or numerous regional lymph nodes (N3 is not used at all sites)

- **M**: presence of distant metastasis
  - M0: no distant metastasis
  - M1: metastasis to distant organs (beyond regional lymph nodes)

ETIOLOGY OF CANCER

- Family history and hereditary
- Age
- Enviornment factor
- Air pollution
- Ultraviolet rays
- Occupational exposure
- Virus and bacteria Human papilloma virus
- Drugs nad medical management
- Lifestyle factor diet,habits, smoking tobacco and alcohol cunsumption

CLASSIFICATION OF CANCER

- Cancers may be classified by their primary site of origin or by their histological or tissue types.

- **Classification by site of origin**
- By primary site of origin, cancers may be of specific types like breast cancer, lung cancer, prostate cancer, liver cancer renal cell carcinoma (kidney cancer), oral cancer, brain cancer etc.

- **Classification by tissue types**
- The international standard for the classification and nomenclature of histologies is the International Classification of Diseases for Oncology.
- Based on tissue types cancers may be classified into six major categories:

- **1. Carcinoma**
- This type of cancer originates from the epithelial layer of cells that form the lining of external parts of the body or the internal linings of organs within the body.
- Carcinomas, malignancies of epithelial tissue, account for 80 to 90 percent of all cancer cases since epithelial tissues are most abundantly found in the body from being present in the skin to the covering and lining of organs and internal passageways, such as the gastrointestinal tract.
- Carcinomas usually affect organs or glands capable of secretion including breast, lungs, bladder, colon and prostate.

2. Sarcoma

- These cancers originate in connective and supportive tissues including muscles, bones, cartilage and fat. Bone cancer is one of the sarcomas termed osteosarcoma. It affects the young most commonly. Sarcomas appear like the tissue in which they grow.

- Other examples include chondrosarcoma (of the cartilage), leiomyosarcoma (smooth muscles), rhabdomyosarcoma (skeletal muscles), Mesothelial sarcoma or mesothelioma (membranous lining of body cavities), Fibrosarcoma (fibrous tissue), Angiosarcoma or hemangioendothelioma (blood vessels), Liposarcoma (adipose or fatty tissue), Glioma or astrocytoma (neurogenic connective tissue found in the brain), Myxosarcoma (primitive embryonic connective tissue) and Mesenchymous or mixed mesodermal tumor (mixed connective tissue types).

3. Myeloma

- These originate in the plasma cells of bone marrow. Plasma cells are capable of producing various antibodies in response to infections. Myeloma is a type of blood cancer.

- **4. Leukemia**

- This a group of cancers that are grouped within blood cancers. These cancers affect the bone marrow which is the site for blood cell production. When cancerous, the bone marrow begins to produce excessive immature white blood cells that fail to perform their usual actions and the patient is often prone to infection.

- **5. Lymphoma**

- These are cancers of the lymphatic system. Unlike the leukemias, which affect the blood and are called “liquid cancers”, lymphomas are “solid cancers”. These may affect lymph nodes at specific sites like stomach, brain, intestines etc. These lymphomas are referred to as extranodal lymphomas.

TREATMENT MODELITIES AND MEDICAL AND SURGICAL MANAGEMENT OF ONCOLOGICAL CONDITION

- **Surgery**
- When used to treat cancer, surgery is a procedure in which a surgeon removes cancer from your body. Learn the different ways that surgery is used against cancer and what you can expect before, during, and after surgery.

- **Radiation Therapy**
- Radiation therapy is a type of cancer treatment that uses high doses of radiation to kill cancer cells and shrink tumors. Learn about the types of radiation, why side effects happen, which ones you might have, and more.

- **Chemotherapy**
- Chemotherapy is a type of cancer treatment that uses drugs to kill cancer cells. Learn how chemotherapy works against cancer, why it causes side effects, and how it is used with other cancer treatments.

- **Immunotherapy to Treat Cancer**
- Immunotherapy is a type of cancer treatment that helps your immune system fight cancer. This page covers the types of immunotherapy, how it is used against cancer, and what you can expect during treatment.

- **Targeted Therapy**
- Targeted therapy is a type of cancer treatment that targets the changes in cancer cells that help them grow, divide, and spread. Learn how targeted therapy works against cancer and about common side effects that may occur.

- **Hormone Therapy**
- Hormone therapy is a treatment that slows or stops the growth of breast and prostate cancers that use hormones to grow. Learn about the types of hormone therapy and side effects that may happen.

- **Stem Cell Transplant**
- Stem cell transplants are procedures that restore blood-forming stem cells in cancer patients who have had theirs destroyed by very high doses of chemotherapy or radiation therapy. Learn about the types of transplants, side effects that may occur, and how stem cell transplants are used in cancer treatment.

THANKYOU