



Celebrating Cancer Day

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Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. Not all tumors are cancerous; benign tumors do not spread to other parts of the body.

What are some general signs and symptoms of cancer?

1. Unexplained weight loss

When everyone loses weight for no known reason, it's called an unexplained weight loss. An unexplained weight loss of 10 pounds or more may be the first sign of cancer. This happens most often with cancers of the pancreas, stomach, esophagus or lung.

2. Fever

It may be an early sign of cancer, such as blood cancers like leukemia or lymphoma.

3. Fatigue

Fatigue is extreme tiredness that doesn't get better with rest. It may be an important symptom as cancer grows. But it may happen early in some cancers, like leukemia. Some colon or stomach cancers can cause blood loss that's not obvious. This is another way cancer can cause fatigue.

4. Pain

Pain may be an early symptom with some cancers like bone cancer or testicular cancer. A headache that does not go away or get better with treatment may be a symptom of a brain tumor. Back pain can be a symptom of cancer of the colon, rectum or ovary.

5. Skin changes

Along with skin cancer, some other cancers can cause skin changes that can be seen. These signs and symptoms include:

1. Darker looking skin (hyperpigmentation)
2. Yellowish skin and eyes (jaundice)
3. Reddened skin (erythema)
4. Itching (pruritis)
5. Excessive hair growth

Signs and symptoms of certain cancers

1- Change in bowel habits or bladder function (**colon, bladder or prostate**)

2- White patches inside the mouth or white spots on the tongue (**mouth cancer**)

3- Unusual bleeding or discharge (**lung, colon or rectum, cervix, bladder, kidney and breast**)

4- Thickening or lump in the breast or other parts of the body: Many cancers can be felt through the skin. These cancers occur mostly in the **breast, testicle, lymph nodes (glands), and the soft tissues of the body.**

5- Recent change in a wart or mole or any new skin change: Any wart, mole, or freckle that changes color, size, or shape, or that loses its sharp border should be seen by a doctor right away.

6- Nagging cough or hoarseness: A cough that does not go away may be a sign of lung cancer. Hoarseness can be a sign of cancer of the larynx (voice box) or thyroid gland.

Causes of cancer:

The great majority of cancers, some 90–95% of cases, are due to environmental factors. The remaining 5–10% are due to inherited environmental factors as used by cancer researchers, means any cause that is not inherited genetically, such as lifestyle, economic and behavioral factors, and not merely pollution.

1- Chemicals:

Exposure to particular substances have been linked to specific types of cancer. These substances are called carcinogens. Tobacco smoking, for example, causes 90% of lung cancer. It also causes cancer in the larynx, head, neck, stomach, bladder, kidney, esophagus and pancreas. Tobacco smoke contains over fifty known carcinogens, including nitrosamines and polycyclic aromatic hydrocarbons.

2- Diet and exercise:

Diet, physical inactivity, and obesity are related to up to 30–35% of cancer deaths.

3- Infection:

Worldwide approximately 18% of cancer deaths are related to infectious diseases. A virus that can cause cancer is called an oncovirus.

4- Radiation:

Up to 10% of invasive cancers are related to radiation exposure, including both ionizing radiation and non-ionizing ultraviolet radiation.

5- Heredity:

Hereditary cancers are primarily caused by an inherited genetic defect. Less than 0.3% of the population are carriers of a genetic mutation that has a large effect on cancer risk and these cause less than 3–10% of all cancer.

6- Physical agents:

Some substances cause cancer primarily through their physical, rather than chemical, effects on cells.

7- Hormones

Some hormones play a role in the development of cancer by promoting cell proliferation. Insulin-like growth factors and their binding proteins play a key role in cancer cell proliferation, differentiation and apoptosis, suggesting possible involvement in carcinogenesis

Diagnosis:

Most cancers are initially recognized either because of the appearance of signs or symptoms or through screening. Neither of these lead to a definitive diagnosis, which requires the examination of a tissue sample by a pathologist. People with suspected cancer are investigated with medical tests. These commonly include **blood tests, X-rays, CT scans and endoscopy.**

Prevention:

Cancer prevention is defined as active measures to decrease the risk of cancer. Greater than 30% of cancer deaths could be prevented by avoiding risk factors including: tobacco, overweight/obesity, an insufficient diet, physical inactivity, alcohol, sexually transmitted infection, and air pollution. Not all environmental causes are controllable, such as naturally occurring background radiation, and other cases of cancer are caused through hereditary genetic disorders, and thus it is not possible to prevent all cases of cancer.

1- Dietary:

The primary dietary factors that increase risk are obesity and alcohol consumption; with a diet low in fruits and vegetables and high in red meat being implicated but not confirmed.

2- Medication

NSAIDs reduce the risk of colorectal cancers, however due to the cardiovascular and gastrointestinal side effects they cause overall harm when used for prevention. Aspirin has been found to reduce the risk of death from cancer by about 7%. COX-2 inhibitors may decrease the rate of polyps formation in people with familial adenomatous polyposis. Daily use of Tamoxifen or Raloxifene has been demonstrated to reduce the risk of developing breast cancer in high-risk women.^[103] The benefit versus harm for 5-alpha-reductase inhibitor such as Finasteride is not clear.

3- Vaccination

Vaccines have been developed that prevent infection by some carcinogenic viruses. Human papillomavirus.

Screening

These factors include:

- 1- Possible harms from the screening test: for example, X-ray images involve exposure to potentially harmful ionizing radiation.
- 2- The likelihood of the test correctly identifying cancer.
- 3- The likelihood of cancer being present: Screening is not normally useful for rare cancers.
- 4- Possible harms from follow-up procedures.
- 5- Whether suitable treatment is available.
- 6- Whether early detection improves treatment outcomes.
- 7- Whether the cancer will ever need treatment.
- 8- Whether the test is acceptable to the people: If a screening test is too burdensome (for example, being extremely painful), then people will refuse to participate.
- 9- Cost of the test.

Management:

1- Chemotherapy

Chemotherapy is the treatment of cancer with one or more cytotoxic anti-neoplastic drugs (chemotherapeutic agents) as part of a standardized regimen. The term encompasses any of a large variety of different anticancer drugs, which are divided into broad categories such as **Alkylating agents and antimetabolites.**

2- Radiation

Radiation Therapy involves the use of ionizing radiation in an attempt to either cure or improve the symptoms of cancer. It works by damaging the DNA of cancerous tissue leading to cellular death.

3- Surgery

Surgery is the primary method of treatment of most isolated solid cancers and may play a role in palliation and prolongation of survival.

Palliative care

Palliative care refers to treatment that attempts to make the person feel better and may or may not be combined with an attempt to treat the cancer