

Example of education essay

[Science](#), [Genetics](#)



Cause and effect of cancer

For a common individual cancer is the deathly disease, for which a treatment process that would completely finish it has not yet been found! We fear it as we fear death, because at the end of the day that is what it does to us. It slowly decays our body to the extent that there is nothing left inside us.

Cancer refers to a non-communicable disease characterized by uninhibited multiplication of abnormal cells in any part of the body. It is these abnormal cells which, are called cancerous, malignant or tumor cells (medicinenet.com).

Types of cancers are further identified by the type of tissue and organ they originate from. Cancer is also not limited to its site of origin. Indeed the hallmark of a malignancy is its metastasis; that is its ability to travel through blood or lymphatic flow to distant parts of the body.

While hundreds of cancers have been identified, the majority of these can broadly be classified according to this schema

Carcinoma: Tumor cells which, arise from tissues or skin of internal organs

Leukemia: Malignancy of blood cells that is, red blood cells, white blood cells and platelets is termed leukemia

Lymphoma: Cancer of lymphoid tissue or cells of lymphoid origin

Sarcoma: Tumors arising from connective tissues such as bones or muscle is called sarcoma

Causes of cancer are widespread and many ranging from genetics to environmental exposure to certain elements. Cancer can also develop in

benign lesions such as the seemingly innocuous nevus or mole seen on almost all individuals.

Cancer causing agents are known as carcinogens. These factors include:

Age: Most cancers with the exception of a select few are seen in older age groups. This is because these aberrations in cells take a long time to develop. The longer a person lives, the more time he has for these abnormalities to develop.

Genetics: While most cancers are not inherited there is a definite link between the development of certain cancers and genetics. The most common of these is breast cancer and its association with the presence of the BRCA 1 and BRCA 2 genes in females. Females who inherit these genes are at an increased risk of developing breast cancer. The incidence of testing positive for these genes is increased in the first-degree female relatives.

Radiation: Exposure to radiation is also a cause of development of cancer. Some forms of radiation such as X-rays, UV rays from sunlight or radon gas cause an increased risk of cancer.

Environment: Constant exposure to tobacco smoke, the sun, asbestos and other environmental hazards is also a cause of development of cancer.

Infections: Some viruses have also been implicated in the development of cancer. These include most commonly the human papilloma virus which causes cervical cancer Hepatitis B and C viruses causing hepatocellular carcinoma and the Epstein-Barr virus which causes nasopharyngeal carcinoma and Burkitt's lymphoma in children.

Gender: While both males and females are equally at risk of development of

cancer, certain cancers have a greater predisposition towards a certain gender so that while breast cancer occurs much more commonly in females nasopharyngeal carcinoma occurs almost exclusively in males.

Immunity: Individuals suffering from reduced immunity such as AIDS/HIV or organ transplant are at an increased risk of development of a certain type of cancers such as lymphomas (Cancer research UK).

Patients suffering from cancer report the earliest symptoms of rapid and extreme weight loss, anorexia and tiredness. These symptoms are grouped under the broader terminology of cancer ' cachexia' and are seen at some point in almost every patient suffering from the disease. The more advanced the cancer greater is this degree of cachexia.

Other effects of cancer include pain at the site of the tumor. Pain usually occurs secondary to localized tumor invasion in underlying nerves, vessels and tissue. Pain in later stages is usually unbearable and has to be managed in specialized pain clinics.

The appearance of a swelling or lump which is increasing in size, a non-healing sore or blister, a mole which suddenly starts increasing in size or changing color, abnormal bleeding, change in bladder or bowel habits or unexplained and unresolving cough are all effects of cancer seen in patients.

Depression and hopelessness are also seen in a wide majority of patients with diagnosed cancers. The condition may be so extreme as to require not only professional counseling but also medical treatment.

Apart from these generalized symptoms, the effects of cancers differ according to specific malignancies and their sites, so that cancer of the

stomach will cause in advanced stages outlet obstruction resulting in severe vomiting and inability to retain food, cancer of the esophagus will cause difficulty and in later stages inability of swallowing while uterine cancer causes severe vaginal bleeding (WebMd. com).

The effects of cancer on the body are not only limited to the tumor itself but also occur secondary to its treatment.

Treatment of cancer is based on both surgical and medical lines. Resectable tumors are excised surgically, associated with which are the hazards of a surgical procedure. However, most tumors when diagnosed are not operable, and even those that have been removed require medical treatment to prevent recurrence.

Medical treatment is offered in the form of chemotherapy and radiotherapy. The effects of these treatments are usually even more draining on the patient than the primary tumor itself.

Chemotherapy and radiotherapy work on the principle of killing these tumor cells. However, chances of damaging healthy cells are also extremely high during these treatments especially in radiotherapy (cancer. org)

Amongst these effects the most common and the most feared is the development of severe nausea and vomiting, which has to be managed by specific anti-emetics. Other effects include anemia, fatigue, alopecia, lymphedema, pain, infertility, decreased libido and the increased risk of development of tumors in other parts of the body especially when proper precautions are not taken.

Earlier diagnosis of cancers and adequate management of said effects of both the tumor itself and its treatment have led to greater curative rates in

this modern era. Patients are now often rewarded with a second life following success of treatment.

However, it is for us to be very careful; it may be a slow process but once reached to point deathly there is no turning back. So, one should be vigilant in what symptoms are matching to those mentioned, and always refer to a doctor for treatment.

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