

A Brief Note on Cancer Mitsuyoshi Claude Urashima*

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Abstract

A cancer is an unusual or abnormal cell growth due to multiple cell divisions in the old cells that do not die. These grow uncontrollably and form into a mass of tissue called as tumours. For a healthy or normal cell to turn into a cancerous cell the genes that are present within the cell are responsible for the cell growth, in which when there is difference in signalling or wrong expression by the gene, the cell divides uncontrollably. The great change over from normal cell to a cancer cell is similar to that of a chain reaction, where the initial errors lead to severe errors and then allows cell to escape from normal tissue growth and further, this rebellion process will end up with the normal cell growth and forms tumours. The rationale, the types of cancers was discussed in this commentary.

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Introduction

A cancer is an unusual or abnormal cell growth due to multiple cell divisions in the old cells that do not die. These grow uncontrollably and form into a mass of tissue called as tumours. Nearly 100 million of people are cancer victims around the world, in terms of yearly, around 10 million deaths are being take place. About 90% to 95% of cases are caused due to genetic mutations and other 10% to 15% is due to inherited genetics. In general, cancer is not a transmissible disease but, it the root causes are very negligible. For a healthy or normal cell to turn into a cancerous cell the genes that are present within the cell are responsible for the cell growth, in which when there is difference in signalling or wrong expression by the gene, the cell divides uncontrollably. The genes affected are of two types; one is oncogenes and the other is tumour supressing genes. The oncogenes are responsible for cell growth and reproduction and the tumour supressing genes are responsible for inhibiting the cell division and its survival. These genetic changes will occur with different mechanisms. The great change over from normal cell to a cancer cell is similar to that of a chain reaction, where the initial errors lead to severe errors and then allows cell to escape from normal tissue growth and further, this rebellion process will end up with the normal cell growth and forms tumours. Once, the cells are out of control in growth due to the sensitivity towards growth signals, the body becomes weak and causes immune destruction.

Cancers are classified into different types based on the type of cell and the tumour cells that are the root cause for tumour. The types include; carcinoma, sarcoma, lymphoma and leukaemia, germ cell tumour, blastoma. Carcinomas are the type of cancers

that are originated from epithelial cells, which are seen generally in lung, breast, prostate, pancreas and colon. Sarcomas are a type which arises from connective tissues like nerves, bones, cartilages, fat etc. Lymphoma and leukaemia are the two types of cancer that originate from the blood forming cells i.e., hematopoietic cells that end up at bone-marrow and occupy in lymph nodes and blood. The germ cell tumour derives from pluripotent cells that are generally seen in ovaries and testicles. Blastoma is originated from the embryonic tissue. There are two main forms of the tumours; one is benign and other is malignant. Benign tumours are not dangerous whereas malignant tumours are serious. Some reasons for cancer causes are still under investigation. Few reasons for cancer cause are like; chemicals, diet and exercise, infection, radiation, heredity, Physical agents, hormones, autoimmune diseases.

Rationale for root cause of cancer

Chemicals

The cancer that is caused due to the exposure to certain chemicals and thereby linked to specific type of cancer are called as carcinogens. These chemicals include, tobacco smoke, alcohol etc.

Diet and exercise

The physical inactivity leads to obesity which is about 35% to 40% deaths that are claimed. The excess body weight is associated with cancer attack in different forms. The main reason behind this is, when body's mass index is higher than required, due to fat depositions the body fails to perform its function properly. Thereby, the body tends to low or weak immune system and

negative effects are noticed.

Infection

Infections are caused by the virus and the virus that leads to cancer can be called as cancer bacteria and parasites. When body is already suffering with some disease, generally the cells under such organ will be weak with some delayed or over expressed signalling. This can be an easy path for the healthy cell to turn into a tumour cell.

Radiation

The body when it is exposed to certain ultraviolet radiation and radioactive materials, it has more chances to cause cancer.

Heredity

In this, maximum population are caused with inherited genetic defects and less population with the genetic mutations.

Physical agents

The agents or the substances that cause cancer in prior to the physical or chemical effects are listed under this type of cancer,

where the substances enter into the body such as inhalation, and it stays there for long time and slowly produces cancer.

Hormones

These play a major role in the causing cancer by proliferation of the cell. Here, these bind to the proteins and play a key role in cell proliferation differentiation and end up with carcinogenesis.

Autoimmune diseases: These are the infected Celia, i.e., celiac diseases, generally seen in the intestine. There is higher risk unless and until treatment is started. Some cancers with this type are Crohn's disease, ulcerative colitis etc.

Conclusion

Cancers are dangerous and even life would be at risk if left untreated or if noticed after so long time. In case, if any change is observed or any abnormality rather than being healthy, it is better for opt the screening tests for detecting the cancer. With the advancements in the technology, even there are noticeable advancements in screening as well in treating the cancer.