Study of Cancer and Its Cause

Namrata Arya
SOBAS, Sanskriti University, Mathura, Uttar Pradesh, India
Email Id- namrata.sobas@sanskriti.edu.in

ABSTRACT: ***Cancer is today's most commonly diagnosed disease; it comes in numerous forms and may affect any area of the human body; the most common cancer type in males is lung cancer, which accounts for 15.5 percent of all new cancer cases globally. Lung cancer is the most common disease worldwide, and it affects the majority of males, with some dying as a result. Breast cancer is the most prevalent cancer in women, and it is found all over the world; in 2018, breast cancer accounted for 25.4 percent of all cancer cases in women. Breast, colorectal, and lung cancers are the three most common malignancies in women, accounting for 43.9 percent of all cancers when skin cancer is omitted. Colorectal cancer and lung cancer are two of the leading causes of mortality among all illnesses. This paper reviews the many forms of cancer and their causes, as well as the rates of cancer-related death among men and women. This study also describes the most common and prevalent type of cancer in both men and women, as well as its causes and treatments.***

KEYWORDS: ***Breast Cancer, Colorectal Cancer, Lung Cancer, Obesity.***

1. INTRODUCTION

Among each of these diseases, cancer seems to be a very serious disease that affects both developed and developing countries. In India the number of cancer cases increases year by year. In a study of American Cancer Society it is found that every year 0.5 percent of the total population in America is treated with cancer. Cancer causes breaking or division of cells inside the body due to which that cell will not be able to perform the same function it was performing that causes cancer and this is the main reason behind cancer. Cancer is a communicable disease which can spread over the body and can damage other organs[1].

In every country many dangerous diseases which put in deadliest disease like:

- Tuberculosis.
- Diarrheal disease.
- Alzheimer disease.
- Diabetes-related.
- Respiratory cancers.
- Chronic obstructive pulmonary disease.
- Lower respiratory infections

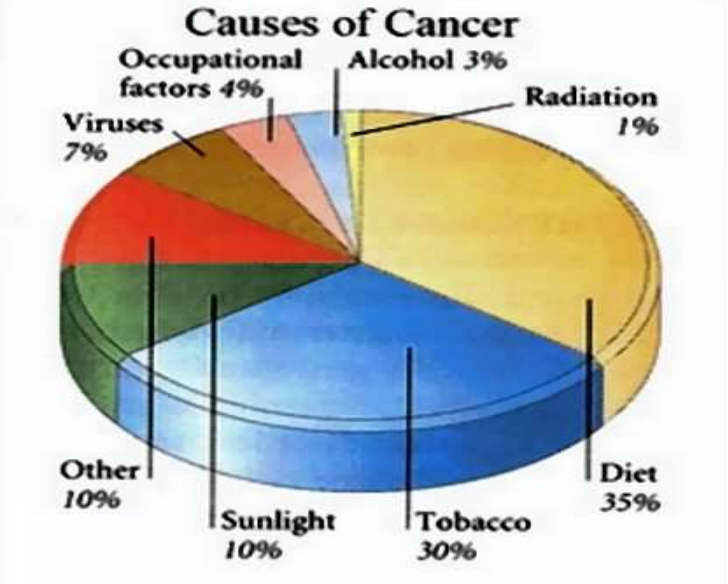

Figure 1: Illustrate the diagram shows the Cause of Cancer

Cancer is caused by the breaking or dividing of cells inside the body, resulting in the cell's inability to fulfil the role it was previously capable of, and this is the primary cause of cancer. Cancer is a contagious illness that can spread throughout the body and cause harm to other organs. Cancer cells multiply in the body as a result of faulty body function, which causes body imbalance, which leads to an increase in bacteria production, which infects the body. Cancer can be cause due to many reason like:

- Diet: Most people eat unhealthy food which can damage human body cells due to which cell not be able to perform well and that may lead to cancer, 35% of people cause cancer due to improper diet
- Alcohol: It can damage liver and kidney of people which results in any bacteria or viruses can affect the person, 3% of the cancer patient die due to alcohol consumption
- Sunlight: It produce UV rays which can cause cancer if that ray penetrate through human body, almost 10% of people get affected due to UV rays produce by sun light
- Viruses : Different virus cause different disease and that virus direct effect and hit the immune system of person that make person defense mechanism power low and person affected by cancer easily, almost 79% which is maximum percentage of population get affected due to multiple viruses
- Occupational factors: 4% of the total cancer patient die because of occupational factor
- Radiation : Harmful radiation can penetrate through human body and can damage human organs, 1% of people affected by cancer due to radiation

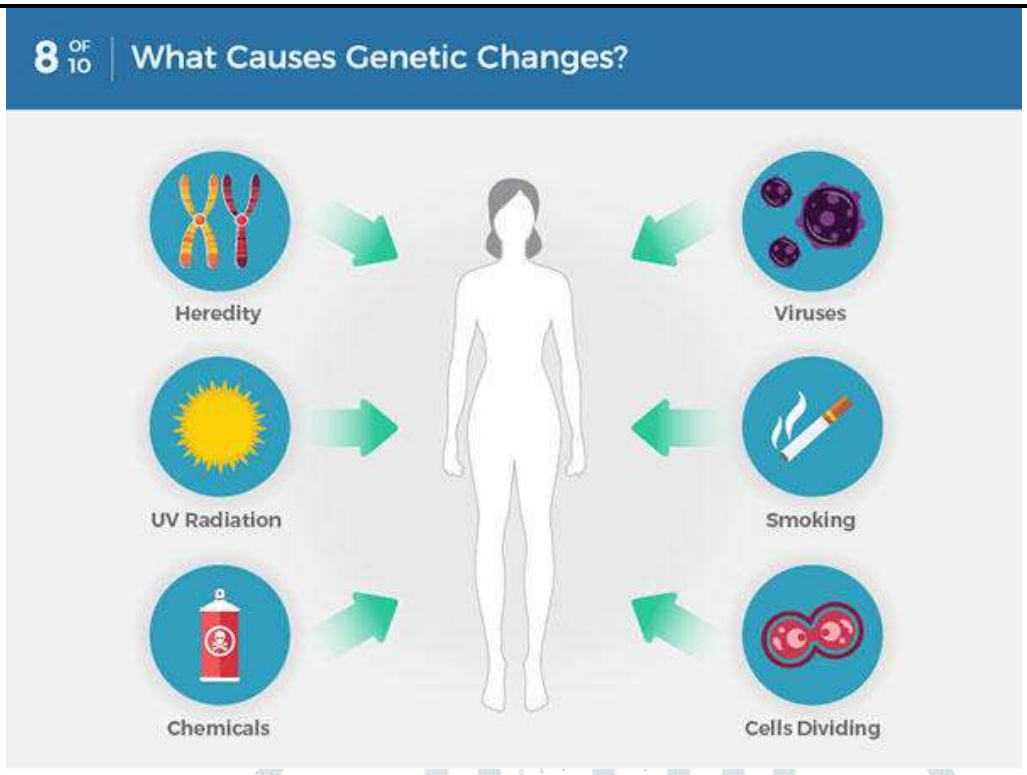

Figure 2: illustrate the diagram shows the Factors Affecting Genetic Change

Cancer is not a communicable disease; it cannot communicate through body to body while doing any physical activities with cancer patients. Sometimes genetic problem can also cause cancer some genetic problems like:

- Heredity: There is a chance that a cancer patient's new born child is also born with that disease which is heredity, due to cancer infected parents child also suffer that disease.
- UV Radiation: UV Radiation also cause cancer it can penetrate into body through body small pores and that UV rays can cause genetic changes also
- Cells dividing : Cells dividing is the main reason behind cancer, due to cell division the previous cell working get disturb which leads to a improper body function, that cell division can change genes of the person
- Chemical: Different chemicals and drugs are used to treat different diseases and sometimes that chemical reacts with other parts of the body and that chemical reaction can change genes of the human body and also damage the immune system of the body.
- Smoking: Smoking can damage liver, lungs of the person this also cause genetic change
- Viruses: Different virus responsible for different disease and viruses can damage organs of human body which cause mutation and genetic change[2].

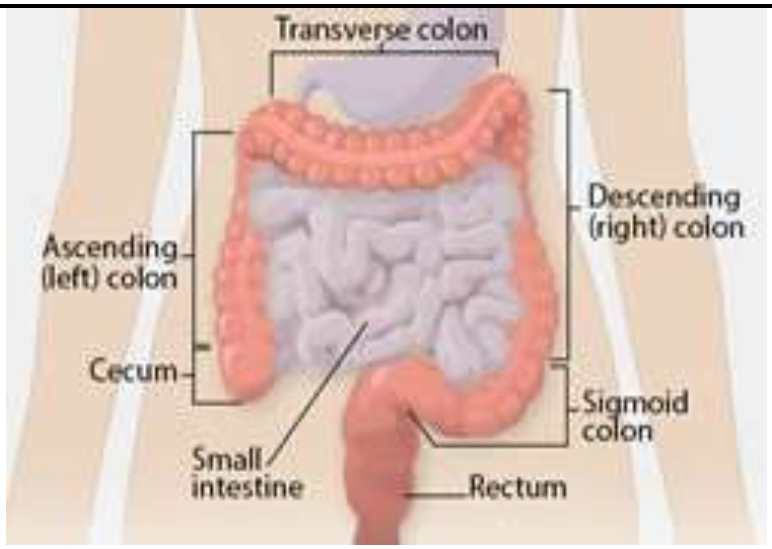

Figure 3: illustrate the diagram shows the Colorectal Cancer

Even though cancer bacteria could perhaps survive in a healthy body, this could transmitted from an infected body to a healthy body. Figure 3 illustrates the inner part of both the insteine. Colorectal cancer is the third most common cancer in both male and female bodies.

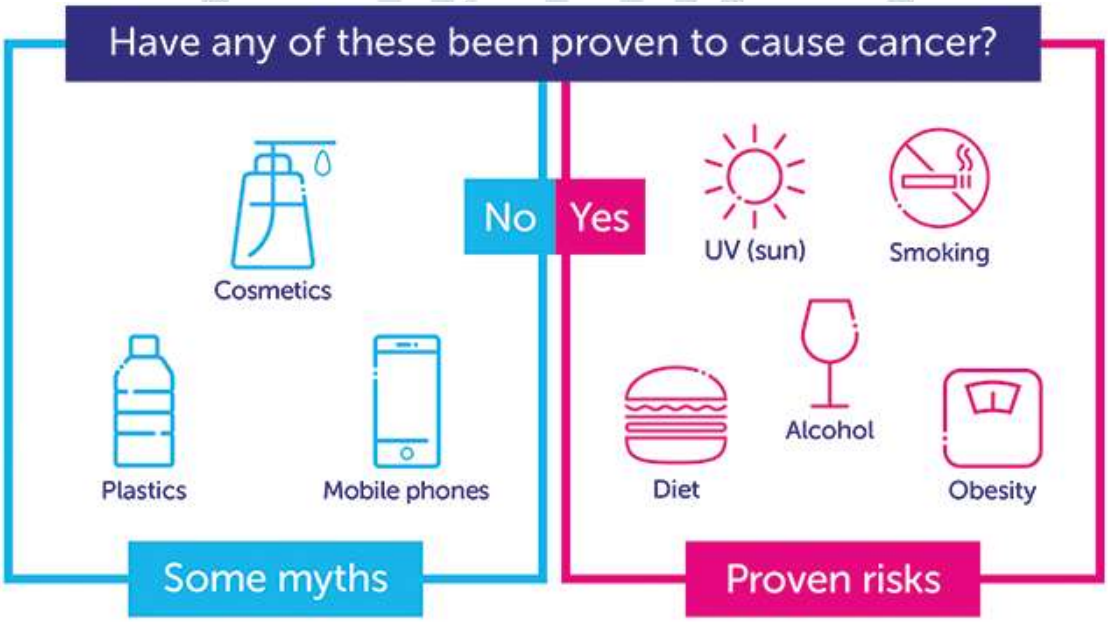

Figure 4: illustrate the proven to cause cancer by some myths and proven risks

Cancer cause is itself a big study but there is some myth created by people regarding cancer like:

- Plastic: In our daily lives many plastic material used also plastic material is not completely disposable due to which burning of plastic increases the pollution rate and produce different toxic chemicals which is harmful for us but this harmful chemical can affect our health but that cannot be the one of reason behind cancer, so this is myth[3].

- Mobile Phone: In 2020 century mobile phone becomes the most used electronic device, Mobile phone or cell phones pass low amplitude levels of non-ionizing signal or radiation. Signal transfer or emitted by cell phones is also known as radio frequency (RF) energy.

- Cosmetics : Some chemicals in cosmetics sometimes in hair dye also responsible for increment of cancer

Cancer cause is itself a big study but there is some proven fact that cause cancer and it is medically proven and certified cause, which are:

- Tobacco :Mainly in males cause lung cancer almost 30%[4].
- Sunlight: It produce UV rays which can cause cancer if that ray penetrate through human body, almost 10% of people get affected due to UV rays produce by sun light
- Diet: Most people eat unhealthy food which can damage human body cells due to which cell not be able to perform well and that may lead to cancer, 35% of people cause cancer due to improper diet[5]
- Viruses: Different virus cause different disease and that virus direct effect and hit the immune system of person that make person defense mechanism power low and person affected by cancer easily, almost 79% which is maximum percentage of population get affected due to multiple viruses[6].
- Alcohol: It can damage liver and kidney of people which results in any bacteria or viruses can affect the person, 3% of the cancer patient die due to alcohol consumption[7].
- Occupational factors:4% of the total cancer patient die because of occupational factor
- Radiation: Harmful radiation can penetrate through human body and can damage human organs, 1% of people affected by cancer due to radiation[8].
- Other: 10% of people affected due to other or miscellaneous reason[7].

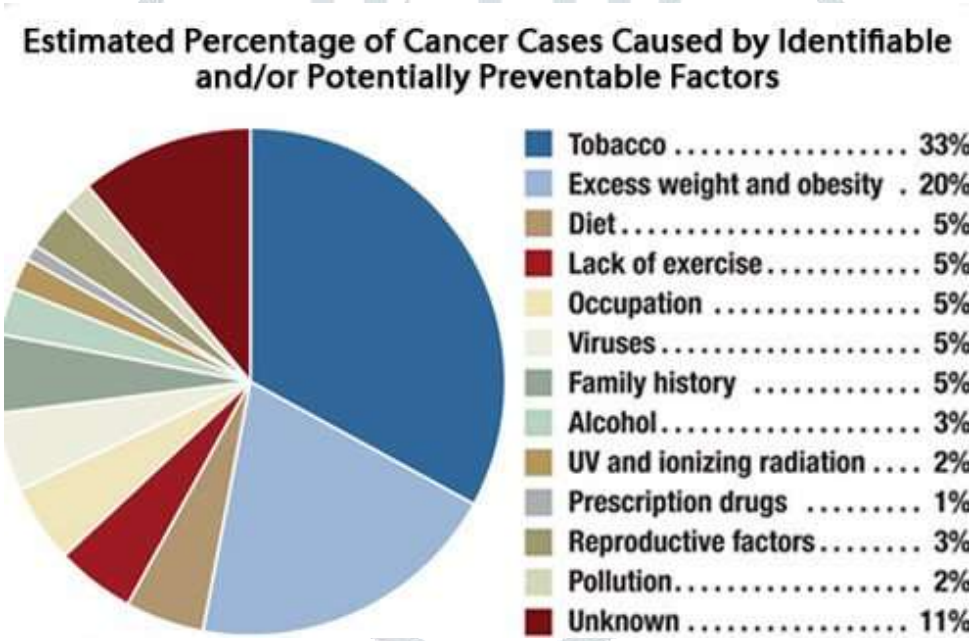

Figure 5: illustrate the estimated cancer cases and its cause

Cancer is caused by the breaking or dividing of cells inside the body, resulting in the cell's inability to fulfil the role it was previously capable of, and this is the primary cause of cancer. Cancer is a contagious illness that can spread throughout the body and cause harm to other organs. Cancer cells multiply in the body as a result of incorrect body function, which causes body imbalance, resulting in an increase in bacteria production, which infects the body.

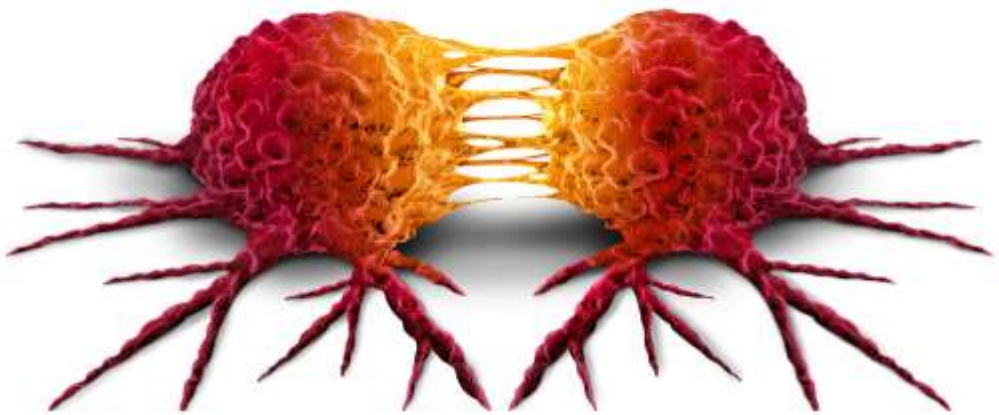

Figure 6: illustrate the Metastasis and Division of Cells

Chemotherapy drugs such as docetaxel, estramustine, and mitoxantrone are widely used to treat prostate cancer. In prostate cancer cells, however, lysophosphatidic acid (LPA), a physiologically active glycerophospholipid derivative, promotes proliferation and prevents apoptosis. The objective of this research was to see if LPA could protect cells against the toxicity of docetaxel, estramustine, and mitoxantrone.

Cancer being overweight or obese:

- Breast cancer in postmenopausal women
- Colon and rectal cancer
- Esophagus cancer (adenocarcinoma)
- Gallbladder cancer
- Kidney Cancer
- Liver cancer

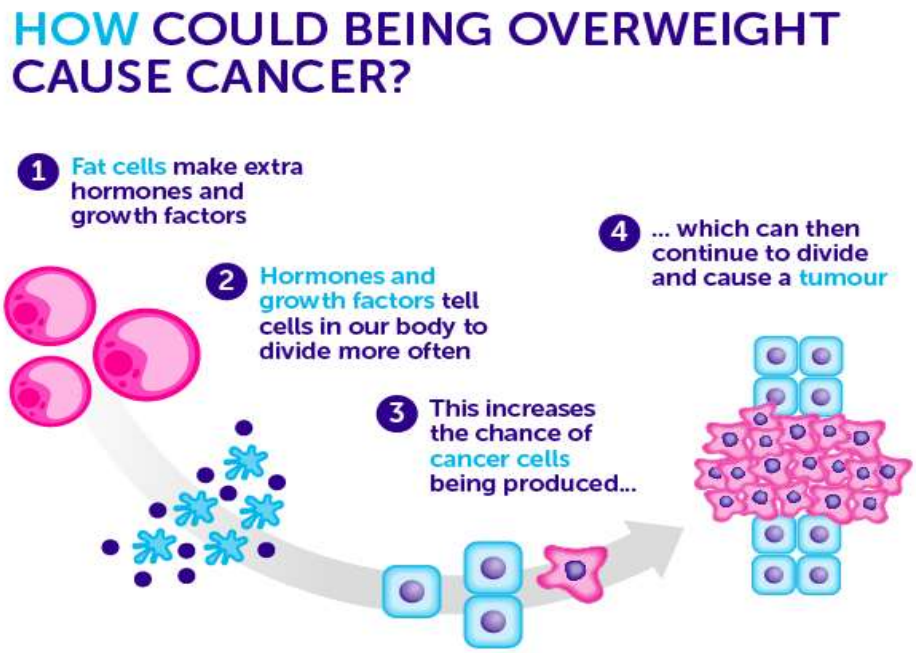

Figure 7: illustrate the Obesity Cause Cancer

- Meningioma (cancer of the membranes covering the brain)
- Multiple myeloma

- Ovarian cancer
- Pancreas cancer
- Stomach cancer
- Thyroid cancer
- Uterine cancer

2. LITERATURE REVIEW

Many people have suffered from cancer but nowadays dying as a due to a lack of awareness and treatment facilities. There were many research papers published and still research in this field is ongoing regarding cancer treatment, cause of cancer, and how it can be reduced. Among all the research papers, one of them titled discussed about and its treatment, also discussed the cells and culture conditions for a cancer patient, group of people involved in this experimental in which group of different experiment performed for drugs and LPA treatment, also discussed about the cell proliferation assay, discussed the colony-formation assay for cancer patient, also give statistical analysis of the cancer patient, apoptosis detection, Lysophosphatidic acid induced cell proliferation in PC3 cells, Effects of LPA on colony formation in PC3 cells, Effects of LPA on apoptosis in PC3 cells, different graph plot and discussed to show effect of LPA (10 μM) on apoptosis in PC-3 cells treated with or without chemotherapeutic drugs[9].

In a research paper titled Background Cancer and Cancer Therapeutics by Warren Kaplan, PhD, JD, and MPH discussed. In this paper also discussed the pediatric/childhood cancers and some rare cancer which is found in the human body, also shows update on 2004 background paper, BP 6.5 cancer, also give ideas in brief about the prevention of cancer. Also discussed what is known of the affordability, feasibility, and sustainability of the control strategy? It showed a NCD Global monitoring framework in this paper. Different types of treatment and vaccines have also been used since many years so in this paper also discussed.[10].

3. DISCUSSION

Accurate therapeutic testing is used to determine the specific source of health problems and to eliminate the cause and existence of cancer-causing germs. If the samples collected for the test are of poor quality, doctors should take another sample for correct reading and analysis. Many tests are necessary in the field of cancer therapy to determine whether or not a person has cancer. Other frequent malignancies that contributed more than 5% were stomach and liver cancers. Breast cancer was the most frequent cancer in women globally in 2018, accounting for 25.4 percent of all new cases diagnosed. Breast, colorectal, and lung cancers accounted for 43.9 percent of all cancer cases. Cervical cancer was the fourth most prevalent malignancy among women in 2018, accounting for 6.9% of all new cases are diagnosed.

4. CONCLUSION

This study covered the many forms of cancer, as well as the causes of cancer, whether it is communicable or otherwise, and then how cancer may damage a person's other cells and organs. It also examined metastasis and also how cancer bacteria can harm other individuals. This research of LPA supports the hypothesis that LPA or its transcription factors might be a potential target for prostate cancer treatment and chemotherapy resistance avoidance. Based on the previous studies and research in the field of cancer, it has been determined that lung cancer is the most prevalent and common kind of cancer in males, while breast cancer has been the most common cancer among women. Lung cancer in men accounts for 15% of all cancer cases in the globe. Other frequent malignancies that contributed more than 5% were stomach and liver cancers. Breast cancer was the most frequent cancer in women globally in 2018, accounting for 25.4 percent of all new cases diagnosed.

REFERENCES:

[1] American Cancer Society, “Cancer Facts and Figures 2017,” Genes Dev., 2017, doi: 10.1101/gad.1593107.

[2] I. A. for R. on Cancer, “Breast Cancer Estimated Incidence, Mortality and Prevalence Worldwide in 2012,” 2012, 2012. .

[3] L. A. Torre, F. Bray, R. L. Siegel, J. Ferlay, J. Lortet-Tieulent, and A. Jemal, "Global cancer statistics, 2012," CA. Cancer J. Clin., 2015, doi: 10.3322/caac.21262.

[4] S. S. Hecht, "Tobacco carcinogens, their biomarkers and tobacco-induced cancer," Nature Reviews Cancer. 2003, doi: 10.1038/nrc1190.

[5] D. R. English, B. K. Armstrong, A. Kricker, and C. Fleming, "Sunlight and cancer," Cancer Causes and Control. 1997, doi: 10.1023/A:1018440801577.

[6] P. S. Moore and Y. Chang, "Why do viruses cause cancer? Highlights of the first century of human tumour virology," Nature Reviews Cancer. 2010, doi: 10.1038/nrc2961.

[7] J. Connor, "Alcohol consumption as a cause of cancer," Addiction, 2017, doi: 10.1111/add.13477.

[8] A. C. Green and D. C. Whiteman, "Ultraviolet radiation," in Schottenfeld and Fraumeni Cancer Epidemiology and Prevention, Fourth Edition, 2017.

[9] C. Trends and F. Directions, "Cancer research," Nutr. Food Sci., vol. 41, no. 6, pp. 87–92, 2011, doi: 10.1108/nfs.2011.01741faa.033.

[10] W. Kaplan, "Background Paper 6.5 Cancer and Cancer Therapeutics," no. April, pp. 1–62, 2013.