REVIEW ARTICLE   **OPEN ACCESS**

Breast Cancer and Blood Cancer-Review

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ABSTRACT

Blood Cancer can be broadly diving into three types- leukaemia, lymphoma and myeloma. Leukaemia is the most common cancers of blood-forming tissues, along with bone marrow. Many patients who shows slow-growing styles of leukaemia don't show symptoms but swiftly growing sorts of leukaemia can show signs and symptoms that encompass fatigue, weight reduction, frequent infections and clean bleeding or bruising. Treatment is incredibly variable. For sluggish-growing leukaemia's, treatment may also consist of tracking the patient. For aggressive leukaemia's, treatment consists of chemotherapy which is from time to time observed by radiation and stem-cellular transplant. Breast cancer can occur in females and infrequently in males. Most commonly seen symptoms of breastcancers consist of a lump within the breast, bloody discharge from the nipple and changes in the form or texture of the nipple or breast.Its remedy relies upon on the degree of cancer. It could include chemotherapy, radiation, hormone therapy and surgical treatment. More awareness should be made among people as treatment of cancer in the initial stage can save the person life rather than increasing the stages of cancer and leading to death. Recent studies says that patients who are diagnosed with Breast Cancer have a risk of acquiring Secondary leukaemia due to mutation. More studies have to be done to know the relationship between blood cancer and breast cancer in order to avoid the patient affected with blood cancer soon after the treatment of breast cancer which can ultimately leads to death of the patient.
*Keywords - leukaemia, Breast Cancer, radiation*

INTRODUCTION

Breast Cancer is one of the major problem in the present life due to increase in the number of cases and as it effect a person physically and mentally [1]. Less advanced countries have 5% of cases whereas advanced countries have case percentage of 1 to 2 percent only[2].Researches suggest that over 7 million people worldwide pass due to breast cancer [3].Over 1 million cases of new Breast cancer reports is being reported each year as Breast cancer is the common life threatening carcinoma seen in females[4]. The most common type of cancer seen in women in Iran is Breast Cancer[5].
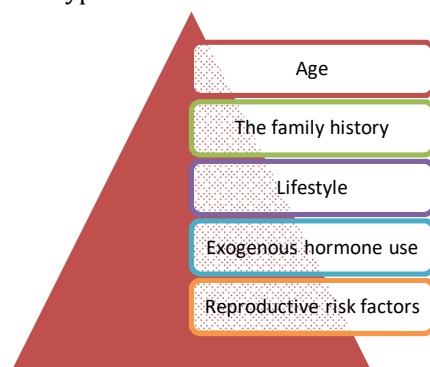
The second most cause of death due to cancer is breast cancer which is very common. It is a cause of death in women between 45 – 55 years old [6]. Lung Cancer is the first cause of death due to cancer followed by Breast Cancer in US[7].

Risk Factors

Age is one of the most important factor of risk for Breast cancer as Breast Cancer is usually seen mostly in aged people. Studies in US suggest that in 2016 Females aged 40, 99.3% was the death rate whereas in females aged 60, 71.2% was the death rate. Hence proper screening test is important with increase in age.Studies suggest that Family history account for an important risk factor. Females who have a case of breast cancer in their family have more chance. It is because of the genes such as BRCA1 and BRCA2 in Breast cancer undergo mutation.Quick menarche, menopause which is late, First pregnancy when aged are some of the reproductive factors that can increase the risk of Breast Cancer.Breast cancer risk can be increased by exogenous as well as endogenous estrogens. Birth control pills, hormone replacement therapy (HRT) are the increased root for exogenous oestrogen. Since 1960, the use of birth control pills came into practice.

A treatment method that reduces the problems of menopause is termed as, hormone replacement therapy (HRT).Increase consumption of dietary fat and increase intake of alcohol in the present world lifestyle increases the chance of a lady to get Breast Cancer. Increase in oestrogen takes place because of intaking alcohol. Saturated fat intake is much more in yet modern world which also contributes to a chance of Breast Cancer. Besides consumption of alcohol, smoking also contributes to an increase in the chances of Breast Cancer.

Breast cancer epidemiology and risk factors. 2019 Prevalence of US female breast cancer relative to other common cancers. Image from the National Cancer Institute (NCI), Surveillance, Epidemiology, and End Results Program (SEER)

Non-Invasive Breast Cancer cells: Cells that are not related to fatty tissues and connective tissue related to Breast but related to the ducts are called as Non-Invasive Breast Cancer.

Invasive Breast Cancer: Those cells that are present in the fatty tissues and connective tissues of Breast by passing the duct are called Invasive Breast Cancer.

A lump formation is the initial sign of Breast Cancer. Other symptoms include lymph node enlargement, discomfort, pain in nipple and also discharge from nipple, breast pain, arched skin seen on nipple, Breast pain and discomfort. In the later stages, pain on bones, Difficulty in berating, Weight loss, Headache, fitnessare also seen[8].

Therapy

Completion of the treatment in given time period is the achievement of treatment[9]. Such a method is always good as many people will be diagnosed only at the last stage. But as pathology checking is less and high cost mostly a delay in the treatment will be seen[10]. A delay in the treatment procedure of Breast Cancer of more than 3 months have a case of making the condition of patient more severe [11]. Surgery of Breast, Radiotherapyare some of the treatment method in stage I and III Disease[12]. In patients where the disease spreads from one part to other parts, the focus of treatment is to reduce the symptoms[13]. Primary systemic therapy and then correct radiotherapy, incision are the methods used in LABCs- Locally Advanced Breast Cancers [14].

Pain Management

In the case of locally advanced breast cancers (LABCs) the main problem is that in these cases a large ulcerated tumor will be formed which should be removed by surgery alone even after chemotherapy[15]. Pain is observed in Breast Cancer in both during the symptomatic period as well as during treatment[16]. By using pain analyzing tool, the level of pain in a patient can be assessed[17]. paracetamol, methadone, ibuprofen are some of the drugs given in controlling pain[18].

BLOOD CANCER

The points which can cause a higher chance of acquiring Leukaemia are as People who get more exposed to rays such as Beta Rays, X. Rays are have a chance of acquiring Blood Cancer[19]. People who get exposed to chemical such as Benzene have more chance of acquiring Blood Cancer as it can alter the body cells[20]. People who have been exposed to chemotherapy have a chance of acquiring blood cancer many years later in their life[21]. People in the case history whose family members are effected with any type of hematologic malignancy have more chance of getting blood Cancer[22]. Acute lymphocytic leukaemia (ALL) which is a malignancy which effects blood and bone marrow are seen in people who have a clinical history of viral infections such as Epstein Barr virus of Herpes Family and also seen in human T-cell leukaemia virus[23].

Classification:

Acute and chronic: The cells which have the ability to increase suddenly and mature minimal and when such cells exit out of bone marrow are termed as Blasts. Presence of Blast with a percentage of 20% is needed in order for ruling out acute leukaemia as these blast cell are seen surrounding the bone marrow

which accounts for the starting of symptoms in Acute Leukemia. But in the case of Chronic Leukaemia, the blast cell number is decreased and also after many years only the initials symptoms are noted[24].

Myeloid and lymphoid: Lymphoid and Myeloid are the two types of cells related to blood seen arising from Hematopoietic stem cells. The main difference between Lymphoid cells and Myeloid cells are that Natural killer cells, T cells, B cells account for Lymphoid cells whereas basophils, neutrophils, eosinophils, macrophages, monocytes account for Myeloid cells[25].

Acute lymphoblastic leukaemia (ALL): Instead of forming into normal T cells and B cells when the primary White Blood Cells present in lymphoid reproduce directly the formation of Acute lymphoblastic leukaemia (ALL) occurs In Elder People the case of Acute lymphoblastic leukaemia (ALL) is less which is 20% when compared to kids as 80% of Acute lymphoblastic leukaemia (ALL) is seen in children[26].

DIAGNOSIS
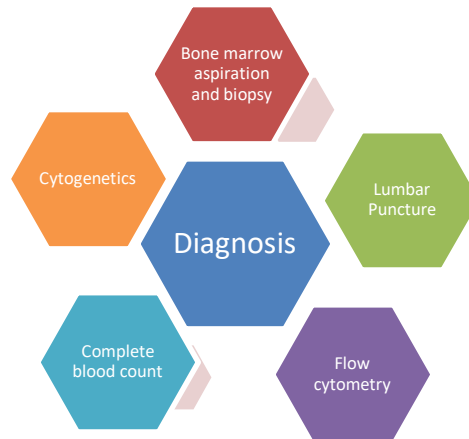
Death is reported mainly because of Cancer in Developed Countries which is a worldwide concern. Early detection of disease is possible with the use of biomarkers . prostate specific antigen (PSA), carbohydrate antigen (CA) which are biomarkers of blood related have gained a lot of importance in the present world In the serum of people suffering from cancer of lymphatics miRNAs are found on higher levels. miRNAs is found as a marker in various Cancer patients. As miRNAs provide beter health outcomes makes it as a biomarkers related to infections

CONCLUSION

Breast Cancer is the most common Cancer seen in females Rarely Breast Cancer is also seen in males. Followed by Lung Cancer, Breast Cancer is the leading cause of death due to Cancer. Tumor formation, pain, secretions from nipple are some of the common symptoms of Breast Cancer. Early detection is the best way for saving a life. Females in all age groups have a chance of getting Breast Cancer, so regular monitoring for all age groups women is recommended. On the other hand, Blood Cancer is also a major life threatening carcinoma which can spread throughout the body. Early Diagnosis in the modern world can bring the person back to life.

CONFLICT OF INTEREST
The authors declare that they have no conflict of interest

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