Incidence and Prevalence of Breast Cancer in USA

Anitha Sri S1* and Prudhvi Raj P2

1Department of Pharmaceutical Technology, GIET School of Pharmacy, AP, India
2Department of Pharmaceutics, Princeton College of Pharmacy, TS, India

*Corresponding author: Anitha Sri S, Department of Pharmaceutical Technology, GIET School of Pharmacy, AP, India, E-mail: anitha.suvvari@gmail.com

Received: December 28, 2016; Accepted: January 05, 2017; Published: January 10, 2017

Abstract

Breast Cancer is the cancer that develops in the breast tissue. It is the most common infiltrating cancer in females worldwide. It generally starts in the inner lining of milk lobules or the ducts that supply milk. Cancer arising in the milk lobules is known as lobular carcinoma whereas the cancer that develops in the milk ducts is known as ductal carcinoma. Obesity, lack of physical exercise, alcohol consumption, hormone replacement therapy and family history are the major causes of breast cancer. Females are more prone to breast cancer compared to males. Breast cancer accounts for 16% of cancers in females and 23% of invasive cancers. 18% of cancer deaths worldwide are due to breast cancer in both the genders. 5-10% of breast cancers are hereditary. One in every eight women in USA develops breast cancer in sometime of her life. Breast cancer is more common in white women but the mortality rate due to this cancer is more in black women.

Keywords: Breast cancer; Milk ducts; Awareness; Literature

Introduction

Breast Cancer, the term itself depicts the presence of carcinoma in the breast. Signs of breast cancer include the presence of lump in the breast, change in shape of the breast, discharge of fluids from the nipple, dimpling of skin and presence of red scaly patch on the skin of the breast [1-9]. Apart from ductal and lobular carcinomas, there exist 18 other subtypes of breast cancer. The severity of the cancer can be from low risk or no risk to death depending on the type of cancer, victim’s age and extent of disease. Proper care must be taken, inorder to prevent death of the patient [11-16]. So there exists a need to be educated and to obtain knowledge on breast diseases so that the right preventive measures can be taken during their occurrence. People can gain awareness through literature, internet sources, family physicians and consultants. Open access journals provide more visibility and accessibility to the readers in gaining the required information. The ongoing researches all over the world, which are being exhibited through open access journals, serve as the main source of information in various fields [17-19].

Inorder to create awareness among the people, group of physicians and consultants unite to form a society or an organization. The main aim of these societies is to counsel and create awareness among the victims of heart disorders as well as healthy personnel [20-26]. Major societies like Senologic International Society aims to improve public awareness in breast cancer.
and the advancement of quality standards to enhance patient care. It also support and promote researches in the field of breast diseases. **World Academy of Medical Sciences (WAMS)** promotes the education and activities relating to the prevention and treatment of breast cancer and development of knowledge and practice in preventing breast cancer. **European Society of Oncology Pharmacy** of Czech Republic is associated with Omics thereby endorsing the scientific events conducted in the field of Oncology. Its main objective is to promote clinical and oncology pharmacy practice through - education and training, safe handling and administration of drugs, quality management, research and development and pharmaceutical care. **American Research and Policy Institute (APRI)** is a non-profit organization working with the aim to provide the useful and relevant information for enhancing women’s health. This information can be utilized as reference by practitioners, policy makers etc. for promoting **health of women**. The main objective of these societies is to disseminate the scientific knowledge to experts in the field so that they can provide better service to the patients and work together to reduce the risk of breast disorders. The society enables the understanding of the disorders by creating awareness among the global communities [27-34].

Open Access literature plays a key role in proving the information and current researches across the globe. **Breast Cancer: Current Research** provides information on latest advances in the treatment of breast cancer and also alternatives achieved for treating this cancer. **Journal of Women’s Health, Issues and Care** a hybrid open access journal that publishes current trends in the research field and is a very good platform for the scholars to attain knowledge. It is a reliable source of information required to enhance women’s health. **Women’s Health and Breast Cancer** is an International meeting that is going to be held during October 2017 in Dubai [35-42]. All the themes pertaining to the preventives measures, other innovative techniques used in the current treatment process of breast cancer, women’s health and issues will be presented. **Advances in Oncology Research and Treatments** is an international peer-reviewed scholarly journal, which published the papers across the world on oncology [43-51].

**Gynecology & Obstetrics** Journal studies improve the knowledge and provide cutting-edge research strategies for the development of new therapeutics. **Journal of Oncology Translational Research** is a leading provider of information on cardiovascular diseases and novel methods of treatment followed. The above mentioned Open access journals are the peer-reviewed journals that maintain the quality and standard of the journal content, reviewer’s agreement and respective editor’s acceptance inorder to publish an article. These journals ensures the barrier-free distribution of its content through online open access and thus helps in improving the citations for authors and attaining good **journal impact factors**.

**Types of Breast Cancer**

Breast cancer is classified into different types based on the way the cancer cells look under microscope. Most common types of Breast cancer include: **Ductal carcinoma** and Lobular carcinoma. Less frequent breast cancers include inflammatory breast cancer, Paget disease of the nipple, Phyllodes tumor and **Angiosarcoma**. [52-66].

Ductal carcinoma is also known as invasive or infiltrating carcinoma [67]. Through Open access healthcare literature provides information of novel researches ongoing in the current era. Here are the list of few articles which provide reports that are competent enough for a person to attain knowledge on breast cancer [68-74]. An article entitled **Pure Micro papillary Carcinoma of the Male Breast: Report of A Rare Case** written by Olfa El Amine El Hadj of Tunisia, explains a
A rare type of breast cancer diagnosed in a male patient. A micro biopsy was performed and the final histopathology revealed a pure Micro papillary Carcinoma of the male breast in more than 50% of tumor’s volume. Micro papillary Carcinoma is a special subtype of invasive ductal carcinoma with an aggressive nature. Diagnosis of this relatively rare carcinoma is important in predicting metastasis to lymph nodes and distant sites regardless of tumor size. Axillary and distant metastasis should be evaluated to determine the therapeutic strategy. [74-82]. Kefah Mokbel is an eminent expert in Breast cancer surgery. He stated that Ductal carcinoma in situ is a heterogeneous disease characterized by noninvasive clonal proliferation of malignant epithelial cells arising from the mammary ducts and terminal ductal-lobular units [83-91]. Its reported incidence is rising due to the wide adoption of screening mammography and magnetic resonance imaging (MRI) in his article entitled Management of Ductal Carcinoma In situ [92-96].

Lobular Carcinoma is also known as invasive or infiltrating carcinoma which starts in the lobules of the milk-producing glands. It is second most common type of carcinoma. According to American Cancer society more than 1,80,000 women in USA are prone to Lobular Carcinoma. [97-104]. In a manuscript entitled Pleomorphic Lobular Carcinoma of the Breast authored by Sandra Hatch of USA provides data regarding breast cancer cases that were recorded in USA. Pleomorphic carcinoma is a subtype of Lobular Carcinoma [105-110]. Recent and innovative approaches that are taking place in the current emerging trend in treatment of breast cancer is going to be discussed at International Meeting on Women’s Health and Breast Cancer which is going to be held in October 2017 in Dubai [111-118].

Apart from the articles, presentation at conferences, symposiums, workshops also yield a better exposure to health information and advanced technologies that are being invented in the present generation [119-123]. In 2nd World Congress on Breast Cancer held in September 2016 in USA, the main topics like the biology, types, therapy, Chemotherapy, Screening and diagnosis, therapeutic approaches, side effects, etc. were discussed [124-129]. Shahla Masood, an expert in breast pathology had discussed the ways that can be monitored to reduce the risk of breast cancer. At World Congress on Midwifery and Women’s Health held in August 2016 in USA, the scientific lectures delivered have discussed one of the most challenging burdens of the recent times. Lisa A. Quinn was one of the eminent speakers at the conference and discussed all the themes pertaining to women’s health [130-136].

**Diagnosis of Breast Cancer**

The incubation of rat kidney microsomes in the presence of Ascorbate-Fe**++** resulted in the peroxidation of membranes as evidenced by emission of light (chemiluminescence). After incubation of microsomes in an Ascorbate-Fe**++** system at 37°C for 180 min, the cpm originated from light emission was lower (concentration dependent) in the SM group than in the control group. FIG. 2 shows the light emission obtained from SM group and control group. The values were from 1768.3 ± 201.19 in the control group to 549.33 ± 15.27 cpm with the addition of 50 µg of SM/mg prot.

Doctors use many tests to detect the presence of breast cancer as well as to identify whether the cancer is confined to breast and lymph nodes or it has spread to other parts of the body [137-145]. Imaging Tests like Diagnostic Mammography, Ultrasound and MRI are used frequently to detect the cancer of the breast. Biopsy is another widely used technique for the diagnosis of breast cancer [146-158]. Biopsy is removal of small amount of tissue for examination under a microscope for the presence of cancer. Other tests include X-ray, Bone scan,
Computed tomography commonly known as CT scan, Positron emission tomography known as PET scan [159-165].

Management and Treatment of Breast Cancer
As the breast diseases have become more prevalent, there are many scientific professionals are trained especially in detecting, treating and counseling the prevention of Breast cancers and these professionals are well known as Oncologists. There exists almost 11,650 doctors specialized in breast cancer treatment, in USA as per a survey conducted in April 2016 [166-173]. The management of breast cancer depends on the type, and stage of the cancer as well as the age of the patient. Breast cancer is generally treated with surgery and later followed by Chemotherapy or radiation. The common surgeries of breast cancer include: Mastectomy, Quadrantectomy and Lumpectomy. Chemotherapy is mostly used at the stage of 2-4. Radiation is given after the surgery to remove the microscopic tumour cells of the breast that escaped the during the surgery. [174-186]. Luca Morandi is a scientific professional with research expertise in breast diseases. Peter has presented the genetic clonal mapping of ductal carcinomas that are not differentiated in his article Genetic clonal mapping of in situ and invasive ductal carcinoma indicates the field cancerization phenomenon in the breast [187-193]. Alejandra de Andres Gomez holds expertise in Breast Cancer and surgery. In her article entitled The Challenge of pN3 Stage in Breast Cancer she had discussed the prognosis as well as the TNM staging of breast cancer [194-200].

Conclusion
Breast Cancers are most prominent and prevalent in USA. Many innovative technologies have been developed to reduce the mortality due to breast disorders. Novel investigations include the development of novel drug therapies as well as cancer therapies. Cryoablation is another type of novel technology developed and must be further studied whether it can be used as a substitute for Lumpectomy.

REFERENCE


84. Koo J, Schramm L. Soy and Breast Cancer, have we Analyzed all the Risks?. J carcinog Mutagene. 2015;6:e117.


