

## Management of invasive and non-invasive breast cancer in the United States and China

This Special Issue of *Chinese Clinical Oncology (CCO)* on “Management of Breast Cancer in the United States and China” was organized to highlight the management of breast cancer in our two countries. It is hoped that sharing this information with readers of this journal will provide a better understanding of how breast cancer is managed in our two countries, and most importantly, to help promote more collaborations between breast cancer physicians and scientists in China and the United States.

Breast cancer is a major threat to health in China, in the United States and elsewhere. Every day in the USA and China combined, it is estimated that 1,411 women are diagnosed with breast cancer! The Global Cancer Statistics (GLOBLCAN) published in February 2015 showed that there were around 1.67 million women worldwide suffering from breast cancer, more than 500,000 patients died of breast cancer, and the incidence and mortality all ranked first among cancers in women (1,2).

In the United States, breast cancer is the most common cancer among American women, except for skin cancers. About 1 in 8 (12%) women in the US will develop invasive breast cancer during their lifetime by the age of 80. Breast cancer is the second leading cause of deaths due to cancer in women, exceeded only by lung cancer. The American Cancer Society estimates that in the United States (for 2016), 246,660 new cases of invasive breast cancer will be diagnosed in women, 61,000 new cases of carcinoma *in situ* will be diagnosed, and 40,450 women will die from breast cancer. Death rates from breast cancer have been declining since about 1989, with larger decreases in women younger than 50. These decreases are believed to be the result of earlier detection through screening and increased awareness, as well as improved treatment. At this time there are more than 2.8 million breast cancer survivors in the United States.

In China, it has been estimated that 268,600 Chinese women developed breast cancer and 69,500 died of breast cancer in the year 2015 (3). Breast cancer is the most commonly diagnosed cancer in China for women between the ages of 30 to 59 years, and breast cancer is the leading cause of deaths due to cancer in women younger than 45 years (3).

In both countries, breast cancer experts are increasingly collaborating together to conduct joint clinical trials and joint educational programs as a component of this academic and clinical partnership. In this Special Issue of *CCO*, leading breast cancer experts from China and America describe their experience in clinical care, research, and education and training. The focus here is primarily on early stage breast cancer and *in situ* breast cancer, including pathological characteristics, staging and multidisciplinary treatment. Separate articles describe surgical aspects of multidisciplinary breast cancer treatments (core needle biopsy of the primary breast cancer surgical margins of excision in breast conservation, sentinel node biopsy technique, timing of surgical treatment after neoadjuvant therapy), adjuvant endocrine therapy, adjuvant radiation therapy, and some novel alternatives to whole breast radiation therapy (e.g., accelerated partial breast irradiation, brachytherapy, radiofrequency ablation) (4-12). Also included is a review of chemotherapy principles for managing Stage IV metastatic breast cancer and an important description of outcomes data on the use of trastuzumab for HER2-positive breast cancer in the Chinese population (13,14).

This issue also describes some important changes in the specialized delivery of breast cancer services in the United States over the past two or three decades, including the breast oncology training of American physicians, a national certification of breast cancer training programs, the organization of multidisciplinary Breast Cancer Centers, the deployment of “mid-level providers”, and even national accreditation of 650 multidisciplinary breast centers (15-17). The results are impressive in demonstrating that specialized cancer care is associated with better outcomes for patients, more comprehensive patient services provided, and a better, faster capacity for conducting joint clinical trials. A vital component of clinical research is the capacity to establish prospective and scientifically valid databases; so we include in this Special Issue an article on organizing research databases from a highly successful breast cancer research program at the MD Anderson Cancer Center (18). Finally, the genetic and molecular testing for prognosis and for selecting breast cancer treatments allow for personalized therapy for

each patient as “precision medicine” (19,20).

The vast patient resources in China are a scale and scope beyond that in almost every medical facility in the United States. This wealth of patient data and candidates for clinical trials and opportunities to evaluate new diagnostics and novel therapies, as well as understand the biology of the host/tumor relationship provides an opportunity to collaborate together for the betterment of breast cancer care globally.

We salute the editors of *CCO* for this opportunity to publish these articles. *CCO* has become an important communicator of contemporary cancer management and research to the benefit of readers across China, America and elsewhere around the globe. We hope those who read these articles will gain new insights about the similarities and differences in how we deliver breast cancer care in these two countries. As we share more information and collaborate together on joint projects, the cancer patients will benefit wherever they live as they seek contemporary treatment for breast cancer at all stages.

## References

1. American Cancer Society. What are the key statistics about breast cancer? 2014 09/25/14 [cited 2014 11/11/14]; Available online: <http://www.cancer.org/cancer/breastcancer/detailedguide/breast-cancer-key-statistics>
2. Liu JJ, Zhang S, Hao X, et al. Breast-conserving therapy versus modified radical mastectomy: socioeconomic status determines who receives what—results from case-control study in Tianjin, China. *Cancer Epidemiol* 2012;36:89-93.
3. Chen W, Zheng R, Baade PD, et al. Cancer statistics in China, 2015. *CA Cancer J Clin* 2016;66:115-32.
4. Klimberg VS, Rivere A. Ultrasound image-guided core biopsy of the breast. *Chin Clin Oncol* 2016;5:33.
5. Xing L, He Q, Wang YY, et al. Advances in the surgical treatment of breast cancer. *Chin Clin Oncol* 2016;5:34.
6. Bao J, Donovan C, Chung A, et al. The staging value of sentinel lymph node biopsy for breast cancer: translating pathologic findings to clinical practice. *Chin Clin Oncol* 2016;5:36.
7. Obeng-Gyasi S, Ong C, Hwang ES. Contemporary management of ductal carcinoma in situ and lobular carcinoma in situ. *Chin Clin Oncol* 2016;5:32.
8. Barrio AV, Morrow M. Appropriate margin for lumpectomy excision of invasive breast cancer. *Chin Clin Oncol* 2016;5:35.
9. Al-Hilli Z, Boughey JC. The timing of breast and axillary surgery after neoadjuvant chemotherapy for breast cancer. *Chin Clin Oncol* 2016;5:37.
10. Swanick CW, Smith BD. Indications for adjuvant radiation therapy in breast cancer: a review of the evidence and recommendations for clinical practice. *Chin Clin Oncol* 2016;5:38.
11. Klimberg VS, Rivere A, Peacock L. Alternatives to whole breast irradiation in early breast cancer. *Chin Clin Oncol* 2016;5:39.
12. Li JJ, Shao ZM. Endocrine therapy as adjuvant or neoadjuvant therapy for breast cancer: selecting the best agents, the timing and duration of treatment. *Chin Clin Oncol* 2016;5:40.
13. Hernandez-Aya LF, Ma CX. Chemotherapy principles of managing stage IV breast cancer in the United States. *Chin Clin Oncol* 2016;5:42.
14. Liao N. HER2-positive breast cancer in the United States and China: on the current situation of anti-HER2 therapy in breast cancer treatment and survival of patients. *Chin Clin Oncol* 2016;5:41.
15. Teshome M, Kuerer HM. Training of breast surgical oncologists. *Chin Clin Oncol* 2016;5:43.
16. Winchester DP. The United States' national accreditation program for breast centers: a model for excellence in breast disease evaluation and management. *Chin Clin Oncol* 2016;5:31.
17. Reynolds RB, McCoy K. The role of advanced practice providers in interdisciplinary oncology care in the United States. *Chin Clin Oncol* 2016;5:44.
18. Yi M, Hunt KK. Organizing a breast cancer database: data management. *Chin Clin Oncol* 2016;5:45.
19. Xu F, Wang X, Jiang Z. The way to precision medicine of our team. *Chin Clin Oncol* 2016;5:46.
20. Kwong A. Genetic testing for hereditary breast cancer in Asia—moving forward. *Chin Clin Oncol* 2016;5:47.



Ning Liao, MD



Kelly K. Hunt, MD



Charles M. Balch, MD

**Ning Liao, MD**

*Guangdong General Hospital and Cancer Center, Guangzhou 510080, China. (Email: drliao\_ning@hotmail.com)*

**Kelly K. Hunt, MD**

*University of Texas MD Anderson Cancer Center, Houston, Texas, USA. (Email: kbunt@mdanderson.org)*

**Charles M. Balch, MD**

*University of Texas MD Anderson Cancer Center, Houston, Texas, USA; University of Texas Southwestern Medical Center, Dallas, Texas, USA. (Email: Balcbcb@jbmi.edu)*

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