

## COMMENTARY

## Experience of Southern Chinese: New Challenges in Treating Young Female Breast Cancer Patients at Child-bearing Age - a Call for Multi-disciplinary Collaboration

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### Abstract

Compared with western populations, Southern Chinese, especially those residing in Hong Kong, are experiencing increasing breast cancer incidence and also a younger onset of breast cancer. Combating this problem and treating young women with breast cancer poses specific challenges and complicated considerations. With reference to the postponement in the age of marriage and reproduction in modern societies, the issue of fertility after breast cancer, especially for high-risk young patients, is one significant quality of life concern that cannot be underestimated as a secondary medical topic. While the issue has its significance and is confronting front-line breast cancer care teams of different disciplines, related research is mostly on Caucasians. In cultures where the traditional expectation on women for child-bearing is still prominent, young breast cancer patients may endure significant distress over fertility options after breast cancer. There is a lack of related data on Asian breast cancer survivors at child-bearing age, which calls for a pressing need to encourage qualitative groundwork, case reports, and cohort experiences in hope for providing insight and arouse research interest. In order to provide a long-term comprehensive multidisciplinary management service with encouragement to encompass prospects for a positive future among young breast cancer survivors, relevant disciplines need to collaborate and work efficaciously together both on clinical and research aspects of cancer-related fertility issues.

**Keywords:** Breast cancer - fertility conservation - BRCA1/2 - psycho-oncology - genetic counselling - Chinese

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### Hong Kong's Perspectives: Young Women Diagnosed with Breast Cancer

With improvement and advancement in screening technology, treatment techniques and enhancement of public awareness, early detection and timely treatment for breast cancer are achievable. Although being a good medical breakthrough, this inevitably poses implications and demands on post-cancer care to a growing population of young breast cancer patients who are facing various quality-of-life and psychosocial issues, such as preservation of fertility and the capacity to reproduce.

This issue warrants great concern among Asian countries such as Hong Kong Special Administrative Region. One population-based study showed that Hong Kong Chinese women present with breast cancer at an earlier age (under 40 years old and most of them still at child-bearing age) with the incidence rate peaks at age 40, earlier than in Caucasians (Kwong et al., 2008). Since 2007 the Programme have received thousands of referrals from local hospitals and other Asian Pacific regions such as Macau, of patients diagnosed with breast cancer as young

as 19 years old, and a considerable percentage still at their 20s or mid 30 for genetic testing and genetic counselling. As younger women often present with more advanced disease and more aggressive tumor characteristics (Kwong et al., 2008), it is likely that they need to undergo more aggressive treatment which may jeopardize their fertility and future reproductive chances.

Working with young breast cancer patients can be both a challenging and gratifying experience for cancer care professionals. The fact that a woman is diagnosed with breast cancer at a relatively young age warrants greater clinical sensitivity on the part of clinicians in terms of the management plan and its medical and psychosocial implications. Two major concerns include 1) whether the cancer is hereditary (timely BRCA1/2 genetic testing can allow more informative discussion on surgical options, and 2) how the overall treatment plan affects important aspect such as fertility and parenthood in the long run. These two issues are inter-related to the patient's long-term adjustment and overall quality of life.

Fertility preservation has become one of the important topics for young cancer patients in the past decade (Schover, 2005; Meneses et al., 2010), especially on

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breast and gynaecological cancer in particular. Adjuvant chemotherapy or radiotherapy for breast cancer may render a premenopausal woman amenorrhoeic, causing an abrupt transition to menopause that is often irreversible (Mehta et al., 1992; Wenzel et al., 1999; Schover, 2005), and have a 40-80% chance of losing fertility (Lee et al., 2002). Anti-hormonal treatment such as Tamoxifen that high-risk females need to be given continuously for 5 years may render women temporarily infertile and hinder the timeframe for family planning.

### **Pregnancy after Breast Cancer: To Be or Not to Be?**

Be it a BRCA1/2 mutation carrier or not, whether they can or should have children is one of the valid struggles among young breast cancer patients still at a child-bearing age. A number of studies in recent years show that having a child after treatment does not lower a woman's chances for long-term survival (Mueller et al., 2003; Kroman et al., 2008; Azim et al., 2011). Another consideration is the relapse rate of the young women is usually higher, which may result in a child being parentless at a young age and hence create other psychosocial issues.

Confronting a life-threatening disease at a relatively young age while simultaneously considering how it will jeopardize the probability to fulfill the desire to have a child is a challenge for both the patient (and their spouses) and clinicians. During the management of young breast cancer patients, the two important factors that warrant clinicians' judgement are 1) which patient would benefit from, and 2) when should the discussion about the impact of cancer treatment on fertility issues take place.

Similar to many modern societies, socio-cultural development and changes on expectations of gender roles result in the trend of late marriage, and also deferment of family planning in many Asian communities such as Hong Kong. According to the Family Planning Association of Hong Kong (Family Planning Association of Hong Kong, 2008), the average age of women at first births increased from 25 in 1981 to 30 in 2008. This data was complementary to the forecast by a local population study in 2003, which found that the mean age at first birth increased by 4.71 years since the 1970s (Tu, 2003). Another research also showed that there was significant postponement of second births in the past decade (Yip and Lee, 2002). These changes in fertility patterns give rise to pregnancies often beyond the age of 35. Fertility and reproductive issues are not only concerns of young adults, but also apply to women at their late 30s and early 40s.

### **Who and When to Refer for Fertility Consultations?**

BClinicians should not rely on their own subjective judgement and assumptions as of whom, and at what age, they discuss oncology-fertility issues with. There is a considerable percentage of young breast cancer patients in the late thirties or even early forties, who may perceive fertility issues as their significant concern irrespective of their marital status.

As previous studies stated, the ideal time to get a consultation on, and pursue fertility preservation options is prior to initiating chemotherapy or even at diagnosis in order to avoid delay of chemotherapy initiation (Murray, 2005; Oktay et al., 2005). However, many women at child-bearing age have difficulties in accessing the necessary information and psychosocial support to assist in the decisional consideration process within the narrow window of time between cancer diagnosis and start of treatment with the potential to permanently impair fertility.

Previous studies on young female Caucasians treated for breast cancer found that patients usually suffered great distress about infertility, and most often than not they are dissatisfied with communication with hematologist/oncologists on this issue (Partridge et al., 2004; Duffy et al., 2005). In a survey of 657 well-educated American premenopausal young breast cancer survivors, 72% had discussed fertility with their hematologist/oncologist, but often the topic was brought up by the patient. Among those who had such discussion, only half of them felt their concerns had been sufficiently addressed (Partridge et al., 2004). Another study on 228 Australian women with early-stage breast cancer found that one-third of the reproductive-age women reported no discussion of fertility issues at diagnosis (Thewes et al., 2005).

One may argue that at the stage of diagnosis, patients are usually overwhelmed by the diagnosis itself and more information including that on fertility issues may result in creating more stress as multiple decisions will have to be made in a relatively short period of time. There is also a considerable possibility that such discussion was never brought up before the treatment starts. A study on 249 oncologists in America found that only less than 6% of the oncologists always referred women with cancer for fertility preservation and more than 60% of the oncologists rarely or never refer their patients to a reproductive endocrinologist (Forman et al., 2010). And even if they did receive such information, there is significant doubt on how many of these young women receive information about reproductive health in a timely manner and referral to fertility specialists occurs at about the same rate.

Distress about cancer-related infertility can be experienced by any females diagnosed in the entire spectrum of their reproductive years, whether they are at the younger end or older end. For hereditary cancer, additional counselling may be required, since patient have additional concerns about passing on their gene mutation to the next generation and some may even need consultation on PGD (Quinn et al., 2010), which entails medical, ethical, legal and psychological implications that are out of the scope of the present commentary.

The importance of offering cancer patients timely information and options about fertility issues and referral to reproductive specialists and psychological support is critical. Despite diagnosis of breast cancer there may still have time for a woman to consider options to preserve their fertility by undergoing relevant and suitable advanced assisted reproductive technologies before chemotherapy (West et al., 2009). There is a need for clinicians to communicate with and educate their fertility concerns and make necessary referral to fertility specialists upon

diagnosis.

Intrinsic time constraints in clinical practice can be resolved by the implementation of educational aids such as online access materials or printed educational brochure or booklet. Clinicians should make sure newly diagnosed breast cancer patients still at child-bearing age can have easy access to information they need if they want to seek further consultation and procedures with fertility clinics. Asian countries are lagged behind in the development, both in terms of clinical and complementary legal policies, research, patient support groups, psychological service, as well as producing patient and professional educational materials along with standardized professional practice guidelines related to this particular issue.

## Conclusions

There is limited research data on the quality and issues of survivorship among young and high-risk breast cancer patients in Asian-Pacific regions. International research efforts in the past decade have recognized the significance for professionals in the specialty of oncology, breast surgery, cancer genetics, fertility, and psychology to surpass the adherence of a standard medical perspective and pledge to work closely and effectively together in order to strive for a better and continuous positive adjustment of breast cancer patients from a high-risk family. There is an urgent need to call for local and international collaborative clinical and research efforts among different disciplines in identifying the specific needs for this growing young population of breast cancer patients and survivors. A comprehensive cancer care service should not end at diagnosis and prescription of treatment. High-risk cancer patients have specific long-term needs that have to be managed with a multi-disciplinary vision and sensitivity.

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