

Meet the Specialist: Breast Cancer Oncologist Dr Khoo Kei Siong



Meet the Specialist - Breast Cancer Oncologist Dr Khoo Kei Siong, who is a Deputy Medical Director and Senior Consultant at Singapore's Parkway Cancer Centre

Singapore breast cancer oncologist Dr Khoo Kei Siong says “changes in dietary habits, life style and reproductive patterns” are the most likely reasons breast cancer diagnoses are rising steadily in the region - with a more than three-fold increase since the late 1960s. But there is good news, with the prognosis for these women “improving significantly” and modern immunotherapy agents showing “strong promise” - particularly when it comes to treating triple-

negative breast cancers. And while all patients make an impact, it was a young woman he met 20 years ago as a junior consultant that has reinforced why emerging therapies can make all the difference - particularly when it comes to HER2+ breast cancer and targeted therapy. To mark Breast Cancer Awareness Month, Dr Khoo shares these insights.

Tell us about a patient who has inspired your career and life's work.

“I recall a young lady with breast cancer whom I met when I was a junior consultant some 20 years ago. She had a stage II breast cancer for which she had surgery and a course of standard adjuvant chemotherapy. Unfortunately, her cancer recurred two years later, with spread to the lungs and bones. This lady was given various chemotherapy treatments with responses that lasted for a few months. Progression in the lungs and liver ensued. Just as we were running out of options, we heard news about a new drug that works in breast cancers that over-expressed HER2 receptors. We were intrigued, and tested this lady's tumour for HER2 and it was strongly positive (IHC3+). We quickly made arrangements for this new drug - trastuzumab - to be made available on a compassionate basis and she was administered this new therapy in combination with docetaxel.

We were delighted when her disease responded marvellously well, achieving a complete response after four cycles of treatment. Her cardiac function marginally deteriorated after four months, but recovered when trastuzumab was withheld for two months. She continued to receive trastuzumab as a maintenance for another nine months before it was discontinued due to poor cardiac function.

What amazed me, was that she remained free of disease progression continuously for the next eight years without any further treatment. She continued to work in the bank and led an active and fulfilling life. I had not seen a patient recover like

that before, and it was a clear demonstration to me of what can be achieved when a major driver of cancer growth is effectively inhibited. That had spurred my interest in targeted therapy, especially in the field of HER2 positive breast cancer. My team then worked very hard to get ourselves equipped so that we could be involved in clinical trials.

The patient eventually passed on due to what was believed to be a sudden cardiac event. It was shocking for the team looking after her at that time as her cancer was in remission. That was a painful reminder that new and effective cancer treatments may have short term and long term effects, that we must continue learning about.

How common is breast cancer in Singapore?

Breast cancer is the most common cancer and the leading cause of cancer death among Singapore women. In the five-year period from 2014 to 2018, about 2200 women were diagnosed each year, accounting for 30% of all cancers in women. The age standardised incidence rate of breast cancer has risen 3.5 times between 1968-1972 and 2014-2018, from 20.1 per 100,000 population to 70.7 per 100,000 population.

Thankfully however, survival rates in breast cancer have also improved steadily over the past three decades, with the five-year age standardised relative survival rising from 50% in 1973-1977, to 80% in 2014-2018. About 10% of breast cancer are stage 4 at the time of first diagnosis.

Why is the incidence of breast cancer rising?

There is no known cause of breast cancer that is unique to Singapore. It is believed that changes in dietary habits, life style and reproductive pattern are the most likely reasons for the rising trend of breast cancer incidence.

A breast cancer diagnosis impacts all areas of a woman's life and affects her quality of life in different ways over the course of the illness. Whether the woman is an elderly person or a mid-career executive or a young mother, the initial diagnosis is often met with disbelief or shock. The following treatment may take anywhere from a few months to a year or longer, disrupting lives and routines. Although the acute side effects of chemotherapy are generally well managed

today, many women experience anxiety, poor sleep, joint stiffness, hot flashes and weight gain – even after the treatment is over.

And what are the chances of recurrence for these women?

The likelihood of recurrence following the initial diagnosis depends on the type and stage of the cancer, as well as the treatment received. In general, the higher the stage, the more likely a recurrence. Some breast cancer sub-types – like HER2-positive and triple negative cancers (where there is an absence of hormone receptors and HER2 receptors) – pose a higher risk of recurrence than hormone receptor positive breast cancers.

This fear of recurrence is common among all cancer patients, and certainly in breast cancer patients as well. It does not help that many breast cancer survivors are young career women with school-aged children, and even elderly parents.

Patients go through an emotional roller coaster, from diagnosis to surgery, to chemotherapy and even when they transition out of treatment to follow up appointments. Some cope well, and are able to maintain a positive mind set as they gradually put their lives back together. Others continue to be weighed down by worries of recurrence, and jump at every little symptom fearing the worse.

I have found talking about statistics bring little comfort. Rather, I try to help them explore the many pursuits they can have going forward and encourage them to live life more meaningfully. For some, it is about re-prioritising a busy schedule to connect with themselves or their family and friends. For others, it is learning a new hobby, or volunteering in a community project. Joining a cancer support group, or a referral to a counsellor may also be helpful.

In course of the journey, quite a few have found new purposes in life and are less pre-occupied with the thoughts of recurrence over time.

Besides medical treatments, some life style changes can also modify the risk of cancer recurrence. Breast cancer survivors are encouraged to exercise regularly (at least three times week), to maintain a healthy weight (keeping BMI within the ideal range), to practice meditation, and cut down on alcohol consumption.

If a woman is diagnosed with breast cancer today in Singapore, why should she have hope?

There are many reasons a woman can be hopeful if diagnosed today with breast cancer. Firstly, her cancer is likely to be in the early stage (70% of new patients are diagnosed at either stage 1 or 2) and these women have a more favourable outcome. Secondly, because of early stage disease and smaller tumours, breast conservation instead of mastectomy is possible for most patients. Even in those whose tumours are too large to permit breast conservation, some may be candidates for neoadjuvant chemotherapy where the tumour can be down-sized sufficiently so a mastectomy can be avoided. Thirdly, with the advancement of systemic therapy of breast cancer, the prognosis of breast cancer, across all stages, has improved significantly. Singapore is world standard when it comes to breast cancer management, and our treatments and services are on par with the world's major cancer centres.

Is immunotherapy playing a role in the management of breast cancer and what is your expectation moving forward?

Although immunotherapy agents in the form of PD1 and PD-L1 check point inhibitors have made a slow start in breast cancer, recent publications has shown that they do have a role in triple negative breast cancer (TNBC). In advanced TNBC, the addition of anti-PD1 to chemotherapy increases the opportunity for progression free survival. The combination of chemotherapy and anti-PD1 inhibitors also increases the chances that the breast tumour will shrink or even disappear (what we call a pathological complete response) in localised TNBC. This is a significant finding, because this could mean a better long term survival for more patients.

Moving forward, I see immunotherapy playing an increasing role in the treatment of breast cancer, in TNBC for sure, but also in other breast cancer subtypes. New research and emerging therapies always offer hope.”