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A Commentary on Pre-Operative Considerations and Benefits of Neoadjuvant Chemotherapy: Insight from a 12-year Hong Kong Breast Cancer Database

Polly Chung[1]*, Yolanda Chan[2]

[1]Breast Cancer Research Centre, Hong Kong Breast Cancer Foundation, Hong Kong SAR, China

[2]Department of Surgery, Kwong Wah Hospital, Hong Kong SAR, China

Commentary

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***For Correspondence:**
Polly Chung, Breast Cancer Research Centre, Hong Kong Breast Cancer Foundation, Hong Kong SAR, China

E-mail: pollycheung@hkbcf.org

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DESCRIPTION

This paper studies our 12-year database from the Hong Kong Breast Cancer Registry on the use of Neoadjuvant Chemotherapy (NAC), and changes in clinical practice of breast cancer management were observed over two study periods in time. Effectiveness of NAC was assessed in terms of Pathological Complete Response (pCR) and Breast-Conserving Surgery (BCS) rates, which was found to be closely related to tumour biology. Benefits of this treatment strategy also differed for different disease stages.

All these observations are bringing insight to pre-operative considerations and patient selection from a multidisciplinary approach, with the aim of achieving the best clinical outcome. Most of the time, surgeons are the first who see breast cancer patients for diagnostic work-up. Hence, they should be equipped with up-to-date knowledge on overall management of the disease, as well as the role of surgery within a multidisciplinary setting.

NAC offers the advantages of down-staging the disease, potentially reducing the extent of surgery and allowing Breast-Conserving Surgery (BCS) [1]. We found that higher proportions of clinically stage IIA or IIB patients treated with NAC underwent BCS. After NAC, the rate of BCS was 53.9% in patients with clinical stage IIA disease, compared with 38.2% in patients with pathological stage IIA disease who did not receive NAC. This brings new implications to surgical aspect of treatment planning; baseline MRI assessment and insertion of markers, for instance, should be considered before starting any neoadjuvant systemic therapy. Under some circumstances, NAC also allows time for the planning of breast surgery while awaiting genetic testing results [2].

In an era of treatment individualization, indications of NAC have further expanded. Now even in some very 'operable' early breast cancer, it is widely accepted as the standard of care [3]. Our results show an overall 20.1% pathological Complete Response (pCR) rate, which may be translated into superior disease-free survival and overall survival for this group [4]. Achieving pCR after NAC has prognostic value particularly in HER2 positive and triple-negative breast cancer [5,6].

On the other hand, the presence of residual disease after NAC indicates the existence of partial treatment resistance in the tumour, and thus, increased risk of recurrence. For those without pCR, additional systemic therapy is possible for improving survival [7]. Examples include adding Xeloda as second line treatment for triple-negative breast cancer, as reported in CREATE-X trial [8]. Similar adjuvant treatment options are available for partial responders of HER2 positive and hormonal receptor positive subtypes, according to KATHERINE and MonarchE trials respectively [9,10].

Our study also showed that more than one-fifth (21.3%) of patients with non-pCR had a change in at least one receptor status after NAC. These alterations in breast cancer biomarkers mean that retesting on the residual tumour would be useful in tailoring further adjuvant therapy.

NAC has already expanded its indications from treatment of locally advanced breast cancers to render them operable, to down-sizing early diseases enabling BCS. In the current era of individualised treatment, it also supports evaluations of therapeutic efficacy, and makes impact on subsequent adjuvant treatment decisions. Under the care of a multidisciplinary team, any early breast cancer patient who is eligible and has an indication for adjuvant chemotherapy should consider receiving the regimens before surgery.

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