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Pathological Complete Response in early-stage HER-2 positive breast cancer patients, receiving neoadjuvant chemotherapy/trastuzumab, in a single breast unit in Johannesburg

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1. Abstract

Background

HER-2 positive breast cancers receiving neoadjuvant therapy containing Trastuzumab show higher rates of pathological complete response, correlating to better clinical outcomes. Trastuzumab is not available in the neoadjuvant setting in the public healthcare system in South Africa.

Methods

This study evaluated factors affecting pCR in early-stage HER-2 positive breast cancers. We retrospectively analysed data of 102 patients with early-stage HER-2 positive breast cancer who completed neoadjuvant trastuzumab/chemotherapy. The cohort was analysed for total pCR and looked at factors that may affect pCR (tumor size, menopausal status, hormone receptor status, Ki-67 levels, and nodal status).

Results

The pCR rate for the entire cohort was 58.82%. Factors associated with a higher pCR were ER receptor status (ER negative= 82.05%, ER positive 44.4%, P<0.00018), PR receptor status (PR negative=75.41% vs PR positive 34.15%, P< 0.00003). The Ki67 <14% was 46.15%, Ki67 14-30% was 51.11% and Ki67> 30% was 70.45% (P<0.037). Univariate analysis showed a significant difference in pCR relating to ER/PR/HER-2 grouping (ER/PR positive= 63.64%, Triple positive= 34.15%, Enriched= 82.05%; P<0.00007).

Conclusions:

This data highlights the importance of characterising the different subtypes of HER-2 positive early breast cancers and the association with pCR, in keeping with the international guidelines. Higher pCR rates were attained in HER-2 enriched subtypes. Currently, in South Africa, trastuzumab is not readily available in the public healthcare sector. This study emphasizes the need for trastuzumab to be made available to all patients with HER-2 positive breast cancers in the neoadjuvant setting in South Africa.