

AB028. Assessing the oncotype dx breast recurrence score assay on core biopsy to predict response to neoadjuvant treatment in patients with breast cancer—a systematic review and meta-analysis

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Background: The Oncotype DX breast recurrence score (RS) has been validated to predict the benefits of adjuvant chemotherapy in patients with estrogen receptor (ER)-positive, HER2-negative breast cancer. The use of RS assessment for predicting chemosensitivity in the neoadjuvant setting is not well established. This systematic review aimed to determine if RS performed on core needle biopsy at diagnosis predicted complete pathological response (PCR) to neoadjuvant chemotherapy (NACT) in patients with invasive breast cancer.

Methods: This study was performed according to preferred

reporting items for systematic reviews and meta-analyses (PRISMA) guidelines. PubMed, Embase and the Cochrane Library were searched systematically to identify studies evaluating the value of RS in predicting response to neoadjuvant treatment in breast cancer patients.

Results: Five studies involving 2,595 patients reported the correlation between pathological complete response (PCR) to NACT and the pre-treatment RS. Three studies used a score of 30 as the cutoff for a 'high' score with the remaining two studies using a score of 25. One thousand and fifty two (40.5%) patients had a 'high' recurrence score compared to 1,543 (59.5%) patients who had 'low/intermediate' RS. The rate of complete pathological response was significantly higher in the 'high' RS group compared to the 'low/intermediate group' (11.4% *vs.* 2.1%; $P < 0.01$).

Conclusions: Studies examining use of RS in the neoadjuvant setting are consistent with adjuvant studies. High RS are associated with greater clinical and pathologic responses from NACT. Low RS may indicate chemoresistance. Consideration should be given to the routine assessment of RS on core biopsy at diagnosis.

Keywords: Breast; cancer; oncotype; neoadjuvant; chemotherapy

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