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**O033 Intraoperative margin assessment in breast conserving surgery using immunoguided labelling with Tenascin-C antibody**

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**Introduction:** Extracellular matrix protein tenascin-C (TNC) is a new potential target for visualising tumours and their response to neoadjuvant chemotherapy (NACT). The application of chemotherapy and radiotherapy to cancers, results in an elevation of tenascin-C. This retrospective cohort analysis investigates whether Tenascin-C can be used as a predictor of responsiveness to chemotherapy and in intraoperative margin assessment in breast conserving surgery post chemotherapy.

**Method:** A feasibility study with Twenty-four breast cancer patients who had received NACT recruited from a single centre. The distribution and intensity of TNC expression in paraffin embedded breast specimens were analysed using a pre-determined scoring system. These scores were then correlated with the patients' clinicopathological characteristics and 'PREDICT' scores.

**Results:** TNC was strongly expressed in the cancer tissue post NACT and was greater in the tumour-associated stroma than in the tumour cells. PR-positive cancers and patients with better post-surgical 'PREDICT 10' tended to have greater TNC expression. More invasive cancers eg triple negative breast cancer had TNC expression that was more pronounced at the tumour invasive border. Increased TNC expression in the center of tumour was correlated with a better pathologic response to NACT.

**Conclusion:** This study shows that TNC is strongly expressed in the stroma of post-NACT breast cancer tissue, and may be linked to pathologic response to NACT, tumour phenotype, and prognosis. There are many potential clinical applications. TNC can be used as (1) predictor of responsiveness to NACT and/or adjuvant therapies, (2) therapeutic target and (3) prognostic marker.