



AB071. SOH22ABS226. Investigating the peri-operative trend of inflammatory mediators in breast cancer and association between differential inflammatory mediators, and tumour characteristics

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Background: Pre-clinical research has suggested that the surgical insult can promote the growth of new metastases and facilitate seeding of micrometastases into the circulation. Cytokine level elevation proportional to the magnitude of surgical stress has been described. The aim of this study was to define the peri-operative dynamics of trend of interleukin (IL)-6, IL-8, TNF- α , IL-1 β and IL-10 in patients with breast cancer and their association with tumour characteristics and surgical intervention.

Methods: Patients presenting for non-reconstructive breast cancer surgery, with non-metastatic disease, aged 18–85 years of age were screened for inclusion. Extensive exclusion criteria were applied to exclude patients with underlying inflammatory disorders, active infection or undergoing neoadjuvant chemotherapy (NACT). Plasma samples were drawn pre-operatively, 4 hours post operatively and 2 weeks post operatively.

Results: Twenty-five patients were analysed. Median age was 61 (range, 43–79). IL-6 and IL-10 levels peaked at early sampling and returned to near baseline levels at 2 weeks post op ($P \leq 0.05$). Early post-op IL-6 levels were lower in patients who had breast conserving surgery compared to

patients who had a mastectomy ($P=0.0408$). TNF- α levels pre-, early, and late post-op correlated with lymph node positivity ($P \leq 0.05$). Pre-op IL-10 levels correlated with tumour grade and hormone expression ($P=0.049$ and 0.043). IL-1 β was poorly detected peri-operatively.

Conclusions: This is the first study to define the peri-operative cytokine trend in breast cancer surgery. Cytokine elevation appears to correlate with tumour characteristics and the magnitude of surgery.

Keywords: Cytokine; perioperative; surgical stress; inflammation; Surguvant

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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