Conclusion: This centre's experience of SA-GCSF demonstrates a significant increase in febrile neutropenia admissions, longer average inpatient stay and risk of dose reduction with SA-GCSF. This prompted a local agreement to switch patients with neutropenic sepsis on SA-GCSF to LA-GCSF for subsequent cycles with the aim of avoiding treatment-related morbidity, mortality and potentially impacting prognosis.

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A Multicentre Study of Pathological Complete Response in HER2-positive Early Breast Cancer Treated with Neoadjuvant Pertuzumab and Trastuzumab

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Purpose: Pathological complete response (pCR) at the time of surgery following neoadjuvant HER2-targeted chemotherapy and dual antibody therapy has been reported as 45–66% [1–3]. It may act as an early indication of long-term outcomes [1]. We retrospectively collected pCR rates after dual antibody therapy across the Peninsula region.

Methods: We included all patients who received neoadjuvant pertuzumab and trastuzumab alongside chemotherapy treatment for HER2-positive early or locally advanced breast cancer.

Results: Forty patients across three oncology centres started treatment between December 2016 and July 2017. Backbone chemotherapy varied between centres. Centres A and B used six doses of monoclonal antibodies alongside docetaxel and carboplatin (TC-HP regimen). Centre C used three doses of monoclonal antibodies with docetaxel in cycles 4–6 of the FEC-T HP regimen. The pooled pCR was 54.5% (60, 66 and 37.5% of cases in centres A–C, respectively). In centre A, 27% (5/18) achieved six cycles without modifications; 50% had one or both chemotherapy drugs omitted during six cycles, continuing the targeted antibodies alone. Reasons included tinnitus, diarrhoea, renal impairment or neutropenic sepsis. Eighty-eight per cent (8/9) and 82% (14/17) completed six cycles without any drug omission in centres B and C, respectively. Total numbers of patients admitted one or more times during neoadjuvant therapy were 66, 55 and 31% in centres A–C, respectively. The likelihood of pCR was similar if ER-positive (1–8/8) or ER-negative (0/8) disease, at 53 and 56%, respectively. Eighty-five per cent had a preplanned surgical procedure (36% breast-conserving surgery [BCS], 49% mastectomy). Thirteen per cent had a preplanned mastectomy converted to BCS after neoadjuvant treatment.

Conclusion: Our multicentre study demonstrated pCR rates similar to seminal trials. The data suggest that pCR rates were still maintained if chemotherapy drugs required omission due to toxicity. Preplanned mastectomies were converted to BCS for a minority of patients.

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Deep Inspiratory Breath Hold Technique to Reduce Cardiotoxicity when Delivering Left Breast/Internal Mammary Chain Radical Radiotherapy: Obstacles to Compliance

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Purpose: Radical radiotherapy to the left breast is associated with cardiotoxicity and subsequent long-term morbidity [1]. Deep inspiratory breath holding (DIBH) is effective in reducing cardiotoxicity, having been shown to reduce the predicted mean cardiac dose to 2.41 Gy versus 3.86 Gy with free-breathing [2]. DIBH is also utilised to treat both the right- and left-sided internal mammary chains (IMC). This study aims to identify the factors affecting poor patient compliance with DIBH.

Methods: A retrospective analysis over a 3-month period identified 35 patients requiring DIBH at the Royal Free Hospital (RFH). Twenty-one patients were able to achieve DIBH. The reasons for failure included claustrophobia, anxiety, a lack of understanding of the technique and language barriers. To improve understanding, patients were instructed in clinic to practice breath-holding at home prior to the planning CT scan. A post-intervention retrospective analysis over a 2-month period identified 14 patients requiring DIBH. Compliance rates and reasons for failure were documented.

Results: Seven of the 14 patients were able to achieve DIBH. Twelve of the patients (including all seven who failed to achieve DIBH) had been instructed to practice breath-holding at home. Of those who failed to achieve DIBH, six patients were not able to achieve breath-holding/consistent breath-holding, but a lack of understanding was not identified as the reason for failure. The notes were unavailable for the remaining patient. These patients instead underwent radiotherapy with real-time position management (RPM).

Conclusion: Verbal DIBH instructions have eliminated a lack of understanding as a cause for failure, with difficulty achieving breath-holding now dominating. RPM is an alternative for patients with claustrophobia, anxiety and difficulties tolerating the DIBH equipment. However, difficulties achieving consistent breath-holding is problematic with RPM. Virtual environment for radiotherapy training (VERT) is offered to RFH patients; reinforcement of the breathing technique within this session is a potential solution.

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The Use of Pertuzumab for Breast Cancer Patients in the Neoadjuvant Setting Presenting to a Tertiary Centre

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Purpose: The use of pertuzumab in combination with trastuzumab and chemotherapy agents for neoadjuvant breast cancer patients for HER2-positive, locally advanced, inflammatory or early-stage malignancy was recently approved by NICE. We describe our experience of response to treatment in a tertiary hospital.

Methods: All patients requiring pertuzumab (April 2017 to April 2018) from the pharmacy department were included. Records were reviewed to confirm receipt of pertuzumab in a neoadjuvant context. Data were collected on histology, chemotherapy regimens, radiological and pathological response to dual HER2 blockade (DHB).