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An Audit of Consultations to Manage Oestrogen Deprivation in Patients Undergoing Early Breast Cancer Treatment

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Purpose: An audit was undertaken to define outpatient workload relating to the management of oestrogen deprivation symptoms (EDS), in terms of numbers, nature, outcomes and duration of consultations.
Methods: Consultations carried out with early breast cancer patients treated with endocrine therapy (ET) or who had undergone medically induced early menopause or who had been advised to stop hormone replacement therapy (HRT) and who were attending a follow-up appointment either: (1) to check for the presence of EDS after a change in relevant treatment or (2) to manage known EDS, were studied. In a retrospective audit of three consultant oncology practises, clinic letters from consultations being undertaken primarily for one of these two indications were studied. Separately, questionnaires completed contemporaneously by clinicians undertaking consultations for these two indications were used to collect more detailed information about the nature of consultations for a parallel prospective audit.
Results: Retrospective audit: 39 consultations occurring in March 2018 were identified. Joint discomfort was the most commonly reported EDS; 67% continued ET and 21% had been offered supportive medications. Further follow-up was arranged for 59% of patients. Prospective audit: 13 consultations were identified October 2017 to January 2018. The average duration of consultation was 18 min. Hot flushes were the most common EDS; 70% were offered supportive medications and 15% discontinued ET. One patient was referred to the menopause clinic. 63% of patients were further followed-up.
Conclusion: This audit demonstrates the considerable outpatient workload in addressing EDS. Data obtained prospectively showed 70% of patients were offered supportive medication, suggesting that a healthcare professional with prescribing capability should be responsible for review. A high proportion of patients were given further follow-up appointments. A small proportion discontinued ET. Referrals to the menopause clinic were infrequent.

Haematological Toxicity Surveillance in the Management of Patients with ER-positive Metastatic Breast Cancer Receiving Palbociclib: is Nurse-led Review on Day 14 Necessary?

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Purpose: Palbociclib is a first in class selective cyclin-dependent kinases 4 and 6 (CDK4/6) inhibitor that has been investigated in phase II/III trials and is now being recommended by NICE for the first-line treatment of ER-positive HER2-negative advanced breast cancer in combination with hormone treatment [1]. An increasing number of patients is expected to soon be started on this drug, which is now widely available. Palbociclib is currently administered for 21 days followed by a 7 day break, with current guidance requiring a full blood count (FBC) on days 1 and 14 for the first two cycles, with an additional day 21 check if required. This study assessed the need for a nurse-led review on day 14 and whether this affects subsequent dosing, in an effort to optimise toxicity surveillance, reduce unnecessary investigations and improve patient quality of life.
Methods: Data were collected retrospectively from patients with metastatic ER-positive HER2-negative breast cancer receiving palbociclib under the Ibrance access scheme in Maidstone and Tunbridge Wells hospitals. Clinicopathological characteristics were obtained by accessing electronic records.
Results: The analysis set comprised 33 patients receiving palbociclib with letrozole (median 79 years, 77% with performance status 0–1). Twenty-four patients had a nurse-led review with a FBC on day 14, of which one (4%) experienced grade 4 and three patients grade 3 neutropenia (12.5%). Only two of these patients required a delay and subsequent dose reduction due to grade 3 neutropenia in day 1 of the next cycle. Of the remaining nine patients who did not have the day 15 assessment, only one patient was found to have grade 2 neutropenia. No grade 4 neutropenia was noted. None of the above patients had a complication of neutropenic sepsis. Overall, dose delays occurred due to day 1 grade 3 neutropenia (4/33) and grade 3 fatigue (1/33).
Conclusion: This study of patients receiving palbociclib suggests that omission of day 14 bloods may be possible without compromising the monitoring of toxicity and patient safety. This study highlights the needs for real-world data to optimise toxicity surveillance and improve patient quality of life, as well as to identify surrogate markers of haematological toxicity.

Reference

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Reflecting Change in Practice: Febrile Neutropenia Rates in Long-acting Compared with Short-acting GCSF Preparations in Breast Cancer Patients Undergoing Neoadjuvant and Adjuvant Chemotherapy

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Purpose: Primary granulocyte colony-stimulating factor (GCSF) is used in curative breast cancer chemotherapy to reduce neutropenic sepsis, dose reductions, chemotherapy delays, hospital admissions and death [1,2]. GCSF is available as long-acting (LA-GCSF) and short-acting (SA-GCSF) preparations. In April 2017, the Royal United Hospitals (RUH) Bath replaced LA-GCSF with a biosimilar SA-GCSF, in line with NHS England recommendations. The impact on patient safety was reviewed.
Methods: All RUH breast cancer patients receiving primary GCSF with chemotherapy between April 2014 and March 2018 were reviewed. All episodes of grade 3 or 4 neutropenia ($<1.0 \times 10^9$/l) were identified and further information collected; GCSF preparation, chemotherapy details, pyrexia ($>38^\circ$C), admission length, subsequent neutropenia, chemotherapy delays ($\geq$2 days) and dose reductions ($>$10% of planned doses).
Results: In total, 343 patients were included; 260 received LA-GCSF and 83 received SA-GCSF. A significantly greater proportion of patients required hospital admission for febrile neutropenia when receiving SA-GCSF compared with LA-GCSF; 22.9% (19/83) versus 10.8% (28/260), respectively (HR 2.13, 95%CI 0.2816–0.8001; $P = 0.0052$). The average length of stay per patient admitted with febrile neutropenia was significantly higher in the SA-GCSF group compared with the LA-GCSF group; 5.4 days (100 days; 19 patients, range 1–15 days) versus 3.3 days (93 days; 28 patients, range 1–10 days): 95%CI 0.1176–3.766; $P = 0.0375$. The proportion of patients receiving a dose reduction or delay was significantly greater in the SA-GCSF group than in the LA-GCSF group; 18.1% (16/83) versus 9.62% (25/260), respectively (HR 1.88, 95%CI 1.039–3.332; $P = 0.0366$).

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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).