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Project: Adjuvant endocrine therapy for early breast cancer

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Introduction:
Despite similar rates of early diagnosis and mammographic screening, New Zealand breast cancer survival lags behind Australia, and this gap widens with increasing time from diagnosis. This is thought to be due to differences in adjuvant chemotherapy and endocrine therapy. Adjuvant endocrine therapy is a hormonal treatment given to patients with breast cancer after surgery and has been shown to improve survival. Current recommendations are for 5 years of adjuvant endocrine therapy, however recent studies have shown that higher risk patients may benefit from adjuvant endocrine therapy for up to ten years. Yet literature from internationally, as well as from Waikato has shown low persistence and adherence to endocrine therapy in breast cancer patients. Low adherence was associated with a significantly higher risk of breast cancer mortality and recurrence. Currently there is no research on compliance to adjuvant endocrine therapy in the Christchurch region.

Aim:
The aim of this research is to establish rates of compliance with adjuvant endocrine therapy for women with early, ER-positive breast cancer in the Christchurch region and to establish any factors contributing to non-compliance.

Method:
We conducted a review of women on the Christchurch Breast Cancer Register (CBCR) diagnosed between June 2009 and June 2013, giving a maximum follow up of 6 years and a minimum of 2 years. The CBCR is a database that captures all women in the Christchurch region with breast cancer. We included women with estrogen receptor positive breast cancer taking oral endocrine therapy and we excluded women with distant metastases. A total of 674 women fitted this criteria. Data was extracted from the CBCR on patient, treatment, and tumour factors. This data was then supplemented by online clinical letters, discharge letters and referral forms from Health Connect South (the hospital electronic record system) to provide information on persistence to endocrine therapy and additional patient demographic information.

Statistical analysis was performed to explore the overall persistence, as well as the association with patient, treatment and tumour factors and length of time on adjuvant endocrine therapy. We also looked at the reasons for discontinuing treatment early, as well as length of time on endocrine therapy by ethnicity.

Results:
Median age of the cohort was 58, 36% were pre-menopausal and 61% were post-menopausal, 6% were Maori and 94% were non-Maori. For the first endocrine therapy women were put on, 38% started on aromatase inhibitors and 61% started on tamoxifen. Overall non-persistence was observed in 26.4% of the cohort. For those that received at least 1 year of adjuvant endocrine therapy, 89% were persistent by the 1 year mark. This figure reduced to 80%, 75%, 68% and 45% over the 2nd to 5th years of adjuvant endocrine therapy respectively. There were no statistically significant associations between patient, treatment and tumour factors and non-persistence to adjuvant endocrine therapy.

When analysing length of time on adjuvant endocrine therapy by ethnicity, Maori women showed a non-significant trend to discontinue therapy early. Side effects accounted for almost half of all reasons for discontinuing early, with 49% of non-persistors stating this as their main reason. Metastatic disease and medical events were the 2nd and 3rd reasons for discontinuing early, accounting for 15% and 10% respectively. The remaining reasons for discontinuing early were as follows: adverse events (6%), loco-recurrence (4%), oophorectomy (removal of a women's ovaries) and poor clinical response (2%), other (1%). Reasons were unknown in 12% of women who discontinued early.

Conclusion:
Persistence on adjuvant endocrine therapy steadily dropped in the cohort, but the biggest decrease was after four years on therapy. This demonstrates the need for clinicians to emphasise the importance of persistence right until the end of therapy. Side effects of the treatment was the main reason listed for discontinuation, showing that managing side effects is key to gaining the most benefit from the therapy. Whilst side effects can make any treatment intolerable, it is important that the patient and the clinician work together to find any alternative solutions before stopping the endocrine therapy altogether.

We did not find any significant associations with any of the patient, treatment and tumour factors and length of time on therapy. We did not glean insight into any one particular group that requires targeting to improve persistence. However this research has shown that there may be a need for an intervention when patients get to the later stages of treatment, particularly if the recommendations are changed to ten years of treatment.

Future research will be required when more patients on the CBCR get to 5 years of follow up.