

Prognostic Value of Ki67 Expression After Short-Term Presurgical Endocrine Therapy for Primary Breast Cancer.

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Introduction

Neoadjuvant endocrine therapy (NET) remains underutilised in clinical practice despite its proven efficacy in downstaging tumours and enabling breast-conserving surgery. NET offers a valuable opportunity to assess in vivo tumour response, potentially reducing the need for neoadjuvant chemotherapy and informing post-operative treatment strategies. This study aimed to evaluate the impact of NET on a cohort of hormone receptor (HR)-positive breast cancer patients.

Research question

What is the effect of preoperative endocrine therapy on prognostication, the likelihood of requiring adjuvant chemotherapy, the choice and duration of adjuvant endocrine therapy in ER/PR positive breast cancer patients and how does this impact clinical decision making and patient outcomes?

Method

This single-centre retrospective cohort study examined patients who underwent NET between January 1, 2022, and December 31, 2023. Data was gathered from patient records, radiological archives, and histopathology reports. The study focused on the effect of NET on various tumour characteristics specifically tumour size, lymph node involvement, Ki67 proliferation index, and hormone receptor status.

Results

Over the study period 110 women with newly diagnosed breast cancer were included in the study. The median age was 60 (IQR 20). All of the patients had stage I and II breast cancer, and 80.5% (83/103) of women were post-menopausal, with 19.4% (20/103) being pre-menopausal. The median days of treatment were 68 (IQR 57). Overall, the size of tumours was not significantly different before and after NET at 16.8 mm vs. 15.4 mm ($p=0.20$). Nodes were negative in 89.3% (92/103) of patients before NET and 86.9% (80/92) after NET. The average Ki67 value significantly differed before and after NET 19.9% vs. 14.8% ($p=0.03$).

Conclusion

NET showed no significant impact on tumour size or nodal status in HR-positive breast cancers. However, changes in Ki-67 levels were observed, suggesting potential alterations in the tumour microenvironment. These changes might lead to tumour size reduction with prolonged NET use. Further studies are necessary to identify predictive biomarkers for personalising optimal neoadjuvant approaches in HR-positive breast cancer treatment.

