

The Prognostic Value of Ki67 in Phyllodes Tumor of the Breast: A Systematic Review and Meta-Analysis

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ABSTRACT

Many clinicopathological features have been examined as predictive factors for adverse outcomes in patients with phyllodes tumor (PT) of the breast, but there are still no definitive predictive markers to guide management, despite the persistent risk of recurrence, even in benign disease. Whether Ki67 has prognostic value in PT remains uncertain. We therefore conducted a systematic review and meta-analysis to examine whether Ki67 is associated with adverse clinical outcomes, especially recurrence, in patients with PT. The PubMed/MEDLINE, Web of Science, Scopus, Embase, and Cochrane Library databases were searched from inception to July 2024. Study characteristics and outcomes (recurrence and overall survival) according to Ki67 status were extracted from each eligible study, and pooled log odds ratios with 95% CI were derived using a fixed-effects model after testing for homogeneity of effect sizes with Cochran's Q-test. Five studies representing 280 cases were eligible for inclusion. The adverse outcome rate for the Ki67^{high} (Ki67 >10% or >11.2%) population was 28.7% (95% CI 20.1 - 38.6%), while the adverse outcome rate for the Ki67^{low} population was 9.4% (95% CI 5.4 - 13.5%). Ki67^{high} was associated with an increased odds (log OR 1.34 (95% CI 0.65 - 2.02, p<0.001) of an adverse outcome compared with a Ki67^{low} status. All five studies scored eight points on the Newcastle-Ottawa Scale, equivalent to "good" quality by AHRQ standards, and no significant publication bias was noted. This is the first meta-analysis of the predictive value of Ki67 in PT of the breast. A relatively high Ki67 index (greater than about 10%) is associated with recurrence. It is timely to re-evaluate the prognostic value of Ki67 in large retrospective cohorts with long follow-up to firmly establish whether it could contribute to identifying patients at risk of recurrence, especially those with histologically benign disease. Doing so could impact clinical practice by refining follow-up recommendations based on quality evidence.

Keywords: Ki67, phyllodes tumor, prognosis, proliferation, recurrence

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