

Surgical management of benign phyllodes tumours of the breast: Is wide local excision really necessary?

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SUMMARY

Current guidelines recommending wide local excision (≥ 1 cm margin) for all breast phyllodes tumours regardless of classification are based on retrospective data. Benign phyllodes tumours of the breast are not aggressive. They are often indistinguishable from fibroadenomas on core biopsy and are diagnosed only after excisions without attention to margins. Once the diagnosis is made, the decision to operate and obtain further margins versus wait-and-watch is the dilemma breast surgeons face on a regular basis.

Phyllodes tumours are uncommon fibroepithelial lesions of the breast, accounting for less than 1% of all breast neoplasms.¹ They are classified as benign, borderline and malignant by histological criteria according to the World Health Organization.² Borderline and malignant variants are more aggressive and are characterized by features such as higher mitotic rate, stromal overgrowth and potential for distant metastases. Benign phyllodes tumours of the breast (BPT), however, are bland and lack aggressive features, and hence can often be difficult to differentiate from fibroadenomas (FAs) on core biopsy. Accordingly, these tumours are often “shelled out” with no margin, and the diagnosis of BPT is usually made on final pathology. Current guidelines, such as those of the National Comprehensive Cancer Network (NCCN), recommend wide local excision (WLE) for all phyllodes tumours of the breast, regardless of their histological grade, citing heightened recurrence rate after simple excision with margins less than 1 cm.³ Subsequent excisions to obtain a “wide” margin subjects patients to the risks of a second surgery and potentially renders poorer cosmetic outcomes.

A common clinical dilemma exists: after simple excision of BTP, could we watch these patients instead of subjecting them to additional surgeries to obtain wide margins?

Current guidelines, such as those of the NCCN, are based on retrospective data. Recently, a few newer retrospective studies have called into question the use of these guidelines for BPTs. To the best of our knowledge, there is no concrete evidence that recurrence of BPT is associated with progression of histological grade or poorer outcomes in the literature. Several recent retrospective studies have not demonstrated an association between margin status and local recurrence rate.^{1,4,5} In the recent data from a large Danish population published in 2017, Borhani-Khomani and colleagues⁵ reviewed 479 borderline phyllodes tumours (PTs) and BPTs between 1999 and 2014 and found a total recurrence rate of 6.3%. For the 354 (74%) patients with BPTs alone, the recurrence rate was 6.2% after a mean follow-up of 98 months. This new evidence from a larger sample size is in contrast to results from prior studies upon which the NCCN guideline was based. Borhani-Khomani and colleagues also did not find any correlation between resection margin status and local recurrence in both BPTs and borderline PTs.

We conducted a local population-based retrospective study in Calgary, Alta., and our results have been consistent with those reported in recent literature. Between January 2010 and December 2014, the cases of 119 patients who had final pathology of BPT were reviewed. After a median follow-up of 59 months, we found no association between final margin status and local recurrence rate (odds ratio [OR] 0.97, 95% confidence interval [CI] 0.18–4.40, $p > 0.99$). Additionally, we found no association between re-excision surgery and local recurrence rate (OR 0.24, 95% CI 0.02–2.04, $p = 0.23$). The recurrences were all determined on final pathology to be BPT without progression of histological grade. Time to recurrence was on average 14.7 (range 8–22) months.

Interestingly, we have observed a low re-excision rate (42%) after BPT diagnosis, even with often close or positive margins. The reason is unclear from chart review. Decision-making in the management of BPT involves both clinicians and patients. We suspect the reason for such low adherence is multifactorial. Guidelines are only as good as the evidence. There are no randomized controlled trials with which to evaluate re-excision versus wait-and-watch. It may be difficult to accrue enough patients to adequately power such studies owing to the rarity of these lesions. Whether a BPT is benign and the risk of additional surgery make active surveillance a reasonable alternative to surgery. We also recognize that the cost and psychological burden associated with active surveillance may tip some patients and clinicians toward upfront re-excision. Further work, such as an analysis of cost-effectiveness, is required to address some of these questions. Large prospective cohort studies with longer follow-up are also needed to ascertain the lack of histological progression of BPTs.

CONCLUSION

The current evidence both abroad and in Canada suggests wide local excision is not a requirement after BPT excision. We did not observe a clear benefit from additional surgeries to obtain wide margins. A wide local excision with margins of at least 1 cm may be too much for BPTs. Recent literature, including our findings, supports a wait-and-watch approach after initial surgical excision owing to a low recurrence rate and no progression of histology when tumours recur. Guidelines for the management of BPT are inadequate in solving the current clinical dilemma. Further studies are required to analyze both surgery and surveillance options.

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