Breast Imaging Surveillance of Biopsy-Proven Papillomas Without Atypia

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Background

Benign breast lesions such as papillomas identified on percutaneous image-guided biopsy have traditionally required surgical excision for definitive management. This approach was historically supported by earlier data suggesting that these lesions carry a notable risk of upstaging on final surgical pathology. Emerging evidence suggests a much lower upstage rate to malignancy, indicating that imaging surveillance may be a better alternative to immediate surgery. We compared the upstage rates of 203 biopsies from 183 patients with benign breast papillomas diagnosed via core needle biopsy who either underwent imaging surveillance or immediate surgical excision within our institution.

Hypothesis

Biopsy-proven benign papillomas without atypia diagnosed with percutaneous breast biopsies have a low likelihood of malignancy and are better managed by close imaging surveillance rather than surgical excision.

Materials & Methods

From 2020 to 2022, our team within MCW Froedtert system tracked patients with biopsied "high-risk" lesions, including papillomas, opting for close imaging surveillance instead of surgical excision. Data from 203 patients were collected and detailed imaging reviews were conducted. Upstage criteria involved papilloma growth or new findings requiring further biopsies or surgery. Patients were eligible for imaging surveillance if they were not considered high risk for breast cancer (history of breast cancer, history of ADH/ALH, known BRCA/CHEK2 mutation, lifetime risk of breast cancer >20%). Lesions had to be < 1cm, with surgery recommended for nipple discharge or palpable masses.

Results

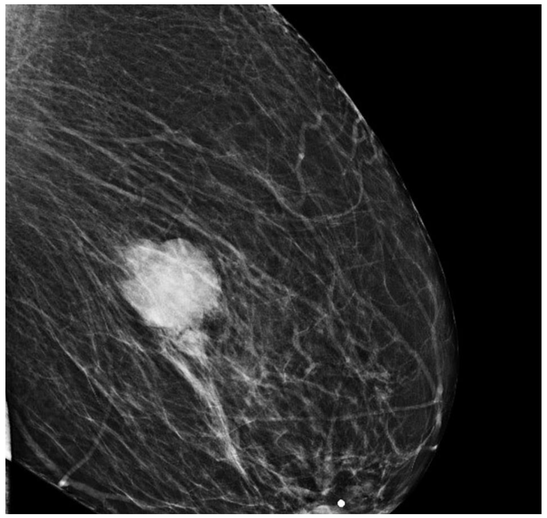


Figure 1: Mammographic appearance of an Intraductal Papilloma.

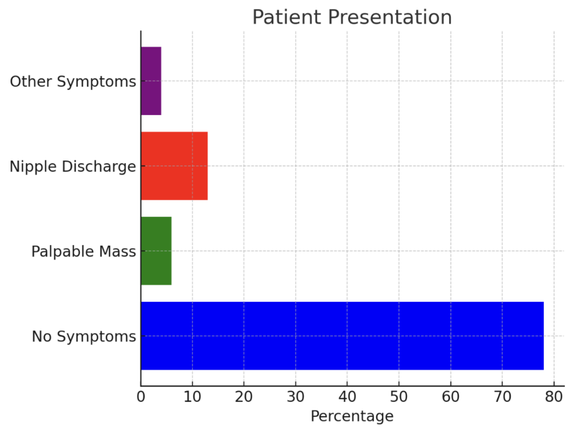


Figure 2: Bar graph showing symptom presentation in patients with Biopsy-Proven Papillomas without atypia.

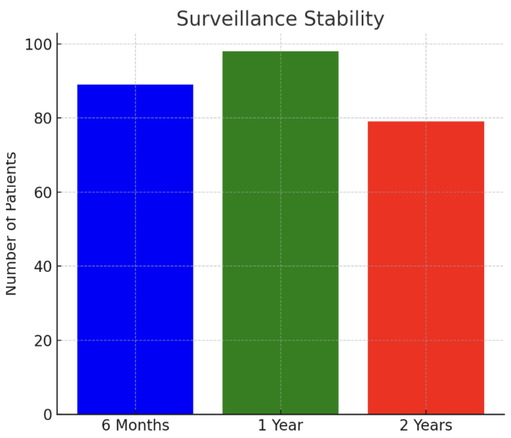


Figure 3:Bar graph depicting the number of patients with stable imaging findings at 6 months, 1 year, and 2 years during surveillance of biopsy proven papillomas without atypia

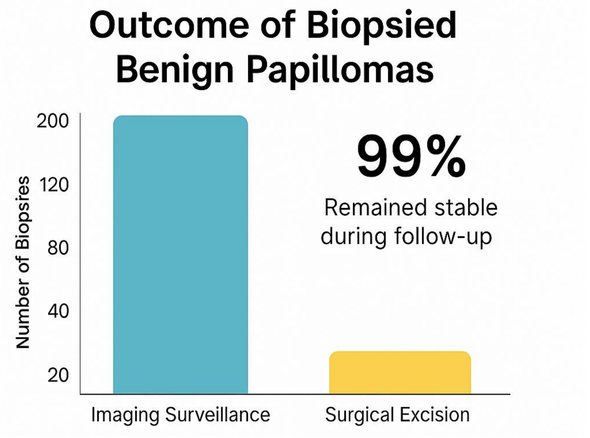


Figure 4: Bar graph illustrating outcomes from a cohort of 203 biopsies in 183 patients diagnosed with benign intraductal papillomas via core needle biopsy

Discussion

- Recent studies suggest that upstage rates from benign papillomas to malignancy may be lower than initially thought. This emerging evidence advocates for a shift towards close imaging surveillance as a viable and potentially preferable alternative to immediate surgical intervention.
- In this study, 201 of 203 (99%) biopsy-proven papillomas without atypia demonstrated stability during surveillance imaging and did not need to go to surgery for excision. Only 2 (1%) of surveilled papillomas without atypia were referred for surgery. Both of these patients had surgical pathology demonstrating benign papillomas without atypia or malignancy.

Conclusion

Based on our findings, surgical excision of a benign breast papilloma without atypia is likely not necessary and is better served with follow up imaging. Surgeons may recommend upfront surgery for those with a genetic predisposition or other factors increasing their breast cancer risk. Diagnostic imaging follow up should be based on biopsy results and assessed risk factors for the individual patient. This would help provide more evidence-based care for patients.

Acknowledgements

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