

Title: Impact Of Routine Expert Breast Pathology Consultation And Factors Predicting Discordant Diagnosis

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Introduction: Expert breast pathology consultation is best practice. However, its impact on operative management and predictive factors of discordant diagnosis after expert consultation are not well characterized.

Methods: A single institution database was queried for patients referred with breast biopsies and subsequent expert pathology consultation from August 2014 to September 2019. Discordance in pathology report and documented changes in therapy were recorded. Univariate and multivariable analysis was performed to determine factors predicting discordance.

Results: A total of 263 women were included; 70% invasive ductal (IDC) or lobular (ILC) carcinoma and 15% ductal carcinoma in situ (DCIS). Ninety-one (35%) patients had discordant findings after expert pathology consultation. No benign or in situ diagnoses were upgraded to invasive cancer. One case of benign to DCIS, one IDC to DCIS, and one DCIS to atypical ductal hyperplasia (ADH) occurred. Two patients upgraded from HER2(0/1+) to HER2(2+) and 11 (12%) downgraded from HER2(2+) to HER2(0/1+). Tumor subtype changed in 10%, while change in invasive cancer grade was most common (45%). Clinical management was altered in 3/263 (1%) with one operative upgrade. Benign lesions without atypia (7.5% vs. 1.1%, $p=0.03$) and diagnosis by excisional biopsy (8.7% vs. 2.2%, $p=0.04$) were more often associated with non-discordant pathology. However, no independent predictors of discordance were observed on multivariable analysis.

Conclusion: The rate of discordant diagnoses after expert pathology consultation is high despite few changes in operative management. Excisional biopsy and benign lesions without atypia may be associated with less pathologic discordance after expert review.