Predictors of Microinvasion and Its Prognostic Role in Ductal Carcinoma in Situ

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Abstract

Background: Predictors of microinvasion in ductal carcinoma in situ (DCIS) are not well understood. We sought to determine factors predicting microinvasion and the prognostic role this plays in patients with DCIS. Methods: A retrospective cohort study of 205 consecutive patients presenting to the Yale Breast Center with DCIS from 2000 through 2003 was performed. A chart review was conducted and bivariate and multivariate analyses comparing patients with and without possible microinvasion were performed. Statistical analyses were done using SPSS software version 19. Results: Of the 205 patients who presented with DCIS and were treated with surgical excision, 51 (24.9%) had evidence of possible microinvasion on final pathology. The median age of all patients was 53.0 years (range 35.8 to 88.9). On bivariate analysis, patients with microinvasion had larger areas of DCIS, and were more likely to have high grade DCIS, of solid and comedo type, associated with necrosis and microcalcifications (see table). There was a trend towards white women having a higher rate of microinvasion than black women (26.9% vs. 8.7%, p=0.061). On multivariate analysis, none of these factors were independent predictors of microinvasion. With a median follow-up of 8.5 years, there was no difference in the likelihood of recurrence in the microinvasion vs. no microinvasion groups (6.0% vs. 7.2%, p=1.000). 5-year actuarial overall survival was also not different between the two groups (96% vs. 94%, p=0.202, respectively). Conclusions: Patients with larger DCIS size, higher grade, solid histology, necrosis, and microcalcifications have a higher likelihood of microinvasion. However, the presence of possible microinvasion does not significantly increase risk of recurrence or decrease survival.