

Letters to the Editor

RESPONSE TO CORRESPONDENCE RE: SHARIFI S, PETERSON MK, BAUM JK, RAZA S, SCHNITT SJ. ASSESSMENT OF PATHOLOGIC PROGNOSTIC FACTORS IN BREAST CORE NEEDLE BIOPSIES. MOD PATHOL 1999;12:941-5.

To the Editor: We thank Dr. Cross for his interest in our article and for re-analyzing our data. The use of kappa statistics represents another approach to assessing the level of agreement between the pathologic findings on core needle biopsy and the subsequent excision. Although Dr. Cross considers the use of kappa statistics to analyze these data “a better way” of assessing our results than the use of raw concordance data, there are a number of limitations to the use of kappa statistics in this context. First, as Dr. Cross noted, the 95% confidence intervals for all of the kappa statistics are very broad. Second, the kappa statistic is not symmetric and should not have symmetric confidence intervals (1). Third, kappa statistics do not take into consideration partial disagreement, and their use can, therefore, obscure potentially important observations. For example, Dr. Cross contends based on the kappa statistics that histologic grade can be more reliably predicted on core biopsy than histologic type. In contrast, in our article we concluded the converse based on evaluation of the raw concordance data, *i.e.*, that assessment of histologic type on core biopsy is more reliable than assessment of histologic grade. Examination of our raw data indicates that among the 15 cases in which

there was a discrepancy in histologic type between core biopsy and excision, in all but four the discrepancy in histologic typing was related to infiltrating ductal carcinoma *versus* infiltrating carcinoma with ductal and lobular features. Such cases should be considered only partial disagreement, regardless of the statistical method used. We therefore still contend that our data suggest that histologic typing is more accurate than grading on core needle biopsy. Finally, we agree with Dr. Cross that larger studies are needed to further evaluate the accuracy of assessing pathologic prognostic parameters in breast core needle biopsies.

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Reference

1. Donner A, Eliasziw M. A goodness-of-fit approach to inference procedures for the kappa statistic: confidence interval construction, significance-testing and sample size estimation. *Stat Med* 1992;11:1511-19.