CORRESPONDENCE

Re: Statewide Study of Diagnostic Agreement in Breast Pathology

The report published by Wells et al. (1) described a statewide study of diagnostic agreement in breast pathology. The authors reported a high degree of diagnostic reproducibility for invasive breast lesions among 26 community-based pathologists who analyzed only a limited proportion of malignant lesions (six of 30 breast lesions, with a diagnosis of invasive malignant lesion; three of 30 breast lesions, with a diagnosis of noninvasive malignant lesion). Furthermore, the authors’ comments on clinical implications of those results are debatable. Wells et al. reported a 4.5% (seven of 156) probability of a noninvasive breast lesion diagnosis, classified as invasive by most of the pathologists; conversely, they reported a 3.8% (24 of 624) probability of an invasive breast lesion diagnosis, classified as noninvasive by most of the pathologists.

These figures are similar to the results that we obtained in a similar study (2), performed in Italy. In a community-based study in Puglia (4 million inhabitants; no breast cancer screening programs ongoing), we analyzed the diagnostic agreement among 12 pathologists for 88 breast lesions that were representative of routine practice. A complete agreement for histologic diagnoses of malignant invasive lesions was obtained for 24 of 34 cases with a diagnosis of invasive malignant lesion; in the remaining 10 cases, the slides were classified differently 28 times, leading to an overall disagreement percentage of 6.8% in this subgroup of cases. Conversely, in 2.7% (17 of 624) of histologic diagnoses of breast lesions with a diagnosis of noninvasive malignant (six cases) or benign type (46 cases), a diagnosis of invasive malignant lesion was made. In summary, data from two studies in different countries using different criteria for selection of the series of slides suggest that, in community-based routine practice, the probability of making a histologic diagnosis of a noninvasive malignant lesion, when most pathologists agree about its invasive characteristics, varies from 4.5% to 6.8%; conversely, a diagnosis of invasive breast lesion, when the majority of pathologists believe that the tumor is not invasive, occurs in 2.7% to 3.8% of the cases. It is interesting that no apparent relationship was reported between levels of diagnostic disagreement and specimen type or perceived slide quality (1).

In contrast to the final comment of Wells et al., the potential clinical interest with regard to these figures is, in our opinion, relevant either in routine clinical practice or in clinical research; this relevance is particularly true for patients with node-negative breast cancer, for whom no further demonstration of invasive characteristics of primary tumor cells is available. These data strongly support the policy suggested by Fisher and Costantino (3) of an external review for patients with node-negative breast cancer when they are included in prospective clinical trials.

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RESPONSE

It is gratifying that the study by Dr. Paradiso and colleagues on diagnostic agreement in breast cancer pathology by community pathologists in Puglia, Italy, demonstrated results similar to those of our study in New Hampshire (1). Regarding the value of a central review for cases included in prospective clinical trials, we concluded that this would be necessary for diagnoses of known poor interobserver reproducibility, such as the distinction of atypical ductal hyperplasia (ADH) from low-grade ductal carcinoma in situ (DCIS). Indeed, the experience of Fisher and Constantino (2) and the National Surgical Adjuvant Breast and Bowel Project (NSABP) was that 10% of the cases reviewed had been overdiagnosed (and thus overtreated) as DCIS, rather than as ADH. Because an external review of ADH cases is not usually requested in clinical trials concerning DCIS, any missed diagnoses of DCIS remain largely unknown.

In comparing our studies, Dr. Paradiso and colleagues note that in 4.5%–6.8% of the cases a lesion was interpreted as DCIS rather than as invasive and in 2.7%–3.8% of the cases a lesion was interpreted as invasive rather than as DCIS. They conclude that an external review of patients with node-negative breast cancer is strongly recommended. We speculate that a lesion underdiagnosed as DCIS, rather than as invasive carcinoma, will be unlikely to receive a node dissection, according to current clinical practice. For those cases overdiagnosed as early or minimally invasive cancer, rather than as DCIS, the National Comprehensive Cancer Network (NCCN) treatment guidelines for the year 1999 state that no adjuvant treatment is required for stage I, IIA, or IIB node-negative tumors 0.5 cm or smaller in size or microinvasive. Therefore, the particular benefits of an external review for patients with node-negative breast cancer who participate in prospective clinical trials are unclear.

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