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#### DISCUSSION

DR. CHARLES M. BALCH (Houston, Texas): I rise to support the basic conclusions that Dr. Baker has made. I would mention, however, that the incidence of invasive carcinoma in the opposite breast does increase as a function of time and follow-up. Some of those studies, both from Memorial Institute and our own, have shown that the incidence of invasive cancer continues to increase over time so that at 20 years it may be as much 15%; however it may still be relatively low at 4% to 5% after only 10 years of follow-up.

There is controversy about the management of the opposite breast because the number of patients is so small. We still do not know whether there are any risk factors that can portend a high probability of developing a second cancer in the opposite breast of a patient with lobular carcinoma of the breast.

One aspect of this problem that was analyzed at the M. D. Anderson Cancer Center involves the geometric location of opposite breast cancers. As you recall it was about 20 years ago when a routine biopsy of the opposite breast was advocated by many surgeons, and if a blind biopsy was done, it should be performed at the "mirror image" location. In fact, our analysis of opposite breast cancer showed that there was no geometric relationship whatsoever. The majority of second carcinomas were located in the upper outer quadrant or the central area. For example, an inner quadrant lesion on one side would not portend an inner quadrant lesion on the opposite side.

Furthermore we would make some distinction between a sparse amount of LCIS around the tumor or elsewhere in the breast and extensive LCIS and have used this as one criteria for biopsies of the opposite breast. This would be especially true in situations in which the opposite breast was difficult to follow because of underlying fibrocystic disease, the patient was unable to have regular follow-up exams, or there was significant and genuine cancer phobia.

The point I would like to make is that if one is going to perform opposite breast biopsies, they should be done sparingly and should not be directed to a mirror image location but in the upper outer quadrant of the opposite breast.

I had three questions I wanted to ask Dr. Baker. First are there any subsets of patients who are at higher risk for developing an opposite breast cancer in their study? Second did they find, as we did, any lack of geometric relationship between the opposite breast cancers? Finally if one is conservative in following these patients without biopsies or mastectomies, it presumes that the screening process would detect an opposite breast cancer at an early and highly curable stage. So my third questions is: In those patients who developed opposite breast cancer, what was the stage and survival of those patients who were followed?

DR. ROBERT P. HUMMEL (Cincinnati, OH): I just rise to make a few comments. The first is that I would certainly agree with Dr. Baker's bottom line that invasive carcinoma of the breast, be it lobular or ductal, seems to act the same. We have reviewed our cases at the Breast Consultation Center in Cincinnati and find that the incidence of bilaterality, lymph node metastases, and so on, is similar once the tumors are invasive.

One of my questions is an elaboration of Dr. Balch's question. It would seem that the recommendations in this paper are based on the ability to follow these patients closely for any recurrent tumor because the percentage of recurrence is high over a period of a number of years. We know there may be a number of difficulties in following patients, including lack of patient follow-up cooperation and the difficulty of evaluating the breast on physical exam. Other patients have difficult mammograms to read. Others have strong family histories of carcinoma of the breast or may show on their biopsy extensive wide-spread dysplasia in the breast specimen along with the original lobular carcinoma. So my question is: Are you influenced by these factors in your recommendations to the individual patient, or do you follow them all regardless of the circumstance?

The other question I would have is that it would seem to me there is even more controversy as to how to treat lobular carcinoma *in situ*, not only in the opposite breast but the same breast. Are you satisfied with a lumpectomy alone or do you recommend any further treatment? I wondered if, after going through these data and looking at your experience with lobular carcinoma both *in situ* and invasive, you have any recommendations about the *in situ* variety of the disease?

DR. FRANK E. GUMP (New York, New York): I would like to congratulate the authors for looking at this topic since it has fallen out of favor in the age of breast preservation.

The series at Columbia is very similar in the sense that we have about the same number of patients, and the only difference has to do with the way that we have looked at the relationship of lobular carcinoma *in situ* to the question of the opposite breast.

I think one of the major differences is the way in which we presented our data. Percentages are very dependent on length of follow-up. If you look at the observed-to-expected ratio, you cannot only deal with that problem, but you can also deal with other risk factors such as family history and patients' ages, which would be important considerations.

The patients who had pure lobular lesions in our series had a 3- to-1 observed-to-expected risk ratio, and this was no different than some 3000 patients who had ductal carcinoma. The difference, though, was in patients who had both the invasive lobular and the *in situ* lobular lesions; here the ratio was 8 to 1. In other words, there was a clear difference when this was added to the invasive lesion. In that sense, we would not agree that the presence of lobular carcinoma *in situ* does not influence the risk on the opposite side. However before closing these remarks, I should say that the same 8-to-1 ratio is true whether you add the lobular *in situ* lesion to an invasive lobular or a ductal lesion, so this is simply a reflection of this marker of increased risk, which is the way we have always looked at lobular carcinoma *in situ*. In fact Dr. Haagensen wanted us to call it lobular neoplasia.

DR. JOHN S. SPRATT (Louisville, Kentucky): I have just a comment and a question. In looking at asynchronous cancers, it is very important to look at the incidence per age-specific man years of observation. This has been shown by the classic work by Schoenfeld on multiple primary cancers, and we used the same methodology at the cancer hospital in

Missouri. When you do it this way, you will find in comparing it with the expected incidence in the general population, you will generally find that there is very little difference between the expected and the predicted incidence, the only exception being a slightly greater risk of additional cancers if the first cancer occurs before age 50.

I wanted to ask the authors if they have looked at the asynchronous cancers, the age-specific incidence of asynchronous cancers over time as opposed to just the cumulative numbers where there is no correction for age and man years of observation?

DR. R. ROBINSON BAKER (Closing discussion): I would like to thank all the discussants. In answer to Dr. Balch's questions: we could not identify a subset of patients at higher risk for developing breast cancer. The majority of second cancers, either previous, simultaneous, or subsequent lesions were in the upper outer quadrant of the contralateral breast. We found no geometric relationship between the tumors. Survival patterns were interesting. Those patients who developed a lobular carcinoma after a duct cancer did rather well, with a 60% long-term survival rate. In contrast only one of ten patients with simultaneous lobular carcinoma were long-term survivors and two of three of the patients with subsequent cancers had died of metastatic cancer within 36 months of the diagnosis of the second cancer.

To answer Dr. Hummel's question concerning the management of the contralateral breast in patients with lobular carcinoma, I would make the following comments. Patients with lobular carcinoma are difficult

to follow. It is an infiltrative process, not a discrete lesion, and therefore difficult to diagnose by physical examination or mammography. On the basis of our experience, I don't believe the incidence of contralateral cancer is high enough to warrant a routine prophylactic contralateral mastectomy. However because these tumors are difficult to detect by physical examination and mammography, the entire problem should be discussed with the patient and if she prefers to have a contralateral mastectomy, knowing the risk involved, I would agree. In answer to the second question, I believe that patients with the diagnosis of lobular carcinoma *in situ* have a 25% chance of developing an invasive cancer in either breast within the next 25 years. The invasive cancer may be a lobular cancer; it is more frequently an infiltrating duct cancer. Further management, again, is dependent on careful discussions with the patient. I think the only alternatives are follow-up physical examinations and mammography or bilateral mastectomies. The patient should be offered simultaneous reconstruction.

Dr. Gump's comments about the increased risk of contralateral cancer in patient's with infiltrating duct cancer in association with lobular carcinoma *in situ* are interesting. We are currently looking at our overall experience with lobular carcinoma *in situ* and perhaps we will come up with the same results. Unfortunately the presence of lobular carcinoma *in situ* in association with invasive lobular carcinoma did not prove to be a reliable indicator of cancer in the contralateral breast.

Dr. Spratt you raise an interesting complicated question that time does not permit answering. Perhaps we can discuss this independently later this afternoon.