For Patient and Pathologist Alike, There’s Nothing Black-and-White about Breast Cancer

The dilemma is increasingly common—and increasingly troubling. It is the direct result of the explosive growth since the 1980s of mammography. The technology is a boon, enabling radiologists to detect tiny abnormalities, and leading to early diagnosis and treatment. But it has a downside: some detected lesions can be confused for cancer, leading to overdiagnosis and overtreatment.

Today in the US, about 50,000 new cases of DCIS are reported annually, but studies indicate that a significant number of these cases are borderline and subject to varying interpretation.

Why is a definitive diagnosis so elusive? “From the biopsy, you’ve got a sliver of tissue—picture an inch of fine linguini—and you’re looking at the cells, through the microscope, assessing their shape and pattern of growth,” says Dr. Cangiarella, associate professor of pathology.

“The differences, between ADH and low-grade DCIS in particular, can be very subtle. You don’t get neat, clear-cut divisions.” Freya Schnabel, MD, director of breast surgery, agrees. “It’s not like the tissue for ADH looks pink and the tissue for DCIS looks blue. There are no clear boundaries. It’s a spectrum, a continuum. There’s a fair amount of subjectivity in the diagnosis.”

Highly experienced pathologists are more aware of the subtleties in differentiating between these two conditions. “Someone who reads fewer than 50 breast cancer cases a year, as is often the case at local community hospitals, may not be in a position to evaluate a borderline lesion,” notes Dr. Schnabel, professor of surgery. In such instances, the slides should be sent out for an expert assessment. At NYU Langone, the experts are in house. “We have two teams—one at Tisch Hospital, the other at the Clinical Cancer Center—that examine slides of breast tissue,” explains Dr. Cangiarella. “Even the most junior member of the teams has years of experience; the most senior has 15. Many cases are reviewed by more than one pathologist. When there’s a disagreement, they can bring the case to our review conference, where four or five of their colleagues will examine the slides together.”

Whatever the diagnosis, ADH or DCIS, the recommendation is that the tissue be removed. “These lesions are worrisome enough that you don’t leave them in,” insists Dr. Cangiarella. Patients with ADH have a risk of developing cancer that is four- to five-fold higher than the general population. The initial diagnosis determines how much tissue is excised. With ADH, notes Dr. Schnabel, “we do a small procedure to cut around the border of the affected tissue. With DCIS, we do a lumpectomy, taking out a margin of normal tissue around the abnormal cells. Except in rare instances, there's no need for a mastectomy.” The excised tissue is also examined by pathologists. “We’ve got the entire lesion now rather than a small sliver,” says Dr. Cangiarella, “so we can more confidently make the call.”

With a confirmed diagnosis of low-grade DCIS, doctor and patient face what is now a second gray zone—whether additional therapy is needed, and if so, what kind. “Breast cancer is not a one-size-fits-all disease,” notes Dr. Schnabel. “Studies are showing that not everybody will benefit from radiation. Not everybody will benefit from hormonal therapy.” For patients with very small areas of disease and wide margins of clear normal tissue, the risk of breast cancer recurring does not appear to shift significantly by adding radiation therapy. “This suggests that these patients could forego radiation.”

“We have to really look at each individual case,” says Dr. Schnabel, “think carefully about how much disease there is, and then try to tailor the treatment to the disease.” That means educating physicians and patients. “As doctors, our bias is to treat. We’re always worried that if we don’t recommend a treatment, the patient won’t do as well as they could have with it. We’re going to have to get comfortable saying to a patient: ‘There’s such a low chance of your benefiting from this intervention that it’s not worth the downside.”’ And patients, of course, will have to get comfortable hearing it.