Paget’s Disease of the Breast

ANA P. LOURENCO, MD; MARTHA B. MAINIERO, MD

CLINICAL HISTORY
A 61-year-old female presented to dermatology with history of a scaly, red lesion on her left nipple which had not resolved over several months. A skin biopsy of the area revealed Paget’s disease of the nipple, which was estrogen receptor negative and progesterone receptor focally positive. She was then referred for breast imaging to evaluate the extent of disease.

IMAGING FINDINGS
Digital mammogram shows heterogeneously dense tissue without evidence of suspicious mass or calcifications (Figures 1A and B). Ultrasound of the retroareolar left breast was also negative (Figure 2). Contrast enhanced breast MRI (Figure 3) was obtained and showed asymmetric left nipple enhancement, as well as segmental, non-mass enhancement in the retroareolar left breast extending into the upper central breast, measuring 5cm in greatest dimension. The findings were highly suggestive of ductal carcinoma in situ (DCIS). MRI-guided biopsy of the abnormal enhancement

Figure 2. Ultrasound of the retroareolar left breast is negative.

Figure 3. Maximum intensity projection image from a contrast enhanced MRI of the breasts shows suspicious, segmental enhancement in the left breast (white arrow).

Figure 1 A and B. Left CC (A) and MLO (B) views from a digital mammogram show heterogeneously dense breast tissue with no suspicious masses or calcifications.
yielded high grade DCIS with necrosis. Due to the extent of disease, the patient underwent mastectomy and sentinel lymph node biopsy with final pathology result showing high grade DCIS with microinvasion and no evidence of lymph node involvement.

**PAGET’S DISEASE OF THE NIPPLE**

Paget’s disease of the nipple is an uncommon presentation of breast cancer, comprising <5% of breast carcinomas. It classically presents with an erythematous, scaly rash on the nipple, and must be distinguished from other nipple dermatoses. The diagnosis of Paget’s disease is made from skin biopsy of the lesion, and it is associated with an underlying breast malignancy in greater than 90% of cases. The majority of the associated breast carcinomas are DCIS, but invasive carcinoma can also be found. Traditional treatment for Paget’s disease of the breast is mastectomy because clinical breast exam, mammography and ultrasound often cannot localize the underlying malignancy. However, up to 68% of patients have localized disease at final excisional pathology, and may be able to undergo breast conserving therapy. Multiple studies have shown that breast MRI can successfully identify an underlying primary breast malignancy in cases of Paget’s disease of the nipple with negative mammogram and ultrasound. The largest series found that an underlying breast malignancy could be identified in 94% of patients with Paget’s disease of the nipple, and that breast MRI had increased sensitivity over mammography. Preoperative breast MRI can help select those patients with localized disease who may be candidates for breast conservation.

**References**


**Authors**

Dr. Martha B. Mainiero is the director of the Anne C. Pappas Center for Breast Imaging at Rhode Island Hospital and is an associate professor of diagnostic imaging at The Warren Alpert Medical School of Brown University.

Dr. Ana P. Lourenco is a radiologist affiliated with Rhode Island Hospital and The Miriam Hospital. She is an assistant professor of diagnostic imaging at The Warren Alpert Medical School of Brown University.