The combination procedure is time consuming but may save patients from unnecessary surgery.

**BY PATRICE WENDLING**

**CHICAGO —** A novel procedure that combines mammographically guided hook-wire localization followed by ultrasound-guided sampling provides a minimally invasive alternative to stereotactic biopsy of breast calcifications.

The combination procedure was used in 57 groups of microcalcifications in 48 women, aged 41-79 years, who failed or were unable to have a stereotactic biopsy. The procedures were performed between January 2001 and September 2008 at Metro Health Medical Center, an inner-city county hospital in Cleveland.

In all, 52 of the 57 groups of microcalcifications were successfully sampled, resulting in a 9% failure rate. Dr. Jill J. Schieda and her colleagues reported at the annual meeting of the Radiological Society of North America. The procedure was considered a success if the targeted calcifications were identified on specimen radiography and in the specimen by pathology. There were no postprocedural adverse events.

Two of the five failures were due to the inability to place the hook wire sufficiently close to the targeted calcifications, and one was due to excessive patient motion. In one patient, the calcification was too close to the skin, and in another patient the procedure was technically successful but no microcalcifications were seen on mammography. Three of the five patients successfully underwent the procedure within 2-6 months of the first failed attempt.

“They also had to be scheduled for de-termination during the meeting. ‘What these data suggest is that perhaps zoledronic acid is doing something more than just affecting bone,’” Dr. Coleman, an oncologist at the cancer research centre at Weston Park Hospital in Sheffield, England, presented the findings in a poster at the meeting.

“This is not a practice-changing study,” he cautioned. “It’s a hypothesis-generating study, which will lead to the design of specific neoadjuvant trials to look at this in more detail.”

In the Neo-Adjuvant Zoledronic Acid to Reduce Recurrence (AZURE) trial, 3,360 women with stage II/III breast cancer were recruited to determine whether treatment with zoledronic acid in addition to neoadjuvant therapy improves disease-related outcomes.

Women had to have a tumor size greater than 5 cm (T3) or features of locally advanced disease (T4) or biopsy-proven lymph node involvement (N1).

They also had to be scheduled for definitive surgery and/or radical radiotherapy with curative intent within 6 months of starting neoadjuvant therapy. In addition, the time between the start of neoadjuvant treatment and the start of zoledronic acid had to be no greater than 30 days.

In AZURE, eligible patients received neoadjuvant chemotherapy according to local practice and were randomized to also receive 4 mg IV zoledronic acid (every 3-4 weeks for 6 months in the neoadjuvant period) or no additional treatment.

The primary surrogate end point for response was RITS at surgery. Secondary end points included pCR, number of positive axillary nodes, and percentage of patients requiring mastectomy. In a multivariate analysis, the researchers adjusted for T stage, estrogen-receptor and progesterone-receptor status, chemotherapy type (anthracycline/taxane), treatment duration, and menstrual status, Dr. Coleman said.

A total of 205 patients received neoadjuvant chemotherapy—104 in the chemotherapy-alone group and 101 in the chemotherapy plus zoledronic acid group. The baseline characteristics and end points included pCR, number of positive axillary nodes, and percentage of patients requiring mastectomy. In a multivariate analysis, the researchers adjusted for T stage, estrogen-receptor and progesterone-receptor status, chemotherapy type (anthracycline/taxane), treatment duration, and menstrual status, Dr. Coleman said.

The unadjusted median RITS was 30 mm in the chemotherapy-alone group, compared with only 20.5 mm in the combination group. In a multivariate analysis (171 patients with complete data), zoledronic acid, estrogen-receptor status (P = .034), and treatment duration (P = .002) were independent significant predictors of smaller RITS with negative estrogen-receptor status and increasing treatment duration.

There was no significant difference in the median number of positive lymph nodes at surgery. The proportion of patients requiring mastectomy in the chemotherapy-alone and combination arms was 77.9% and 65.3%.

Dr. Coleman reported that he has received grant support from Novartis and is on the speakers bureau with Novartis and Amgen Inc. Novartis makes Zometa. The study was sponsored in part by Novartis.