Supplemental Digital Content 2.

Implant Location: Subglandular vs. Subpectoral

There were no statistically significant differences in patient age, implant age, and type of implant (saline or silicone) when analyzed by implant location. Caucasian patients were significantly more likely to have a subpectoral augmentation whereas non-Caucasian patients were significantly more likely to have a subglandular augmentation (p=0.012). Mean primary tumor size was comparable in the subglandular group and subpectoral group, 1.32 cm vs. 1.49 cm, respectively (p=0.262). There were no significant differences observed in implant location and TNM characteristics or staging. However, patients with subglandular implant placement had higher rates of Stage 3 disease (p=0.207) as reflected in higher rates of positive nodal status (p=0.119). Rates of EIC and DCIS were similar, but ILC was only observed in the subpectoral group. Tumor receptor status (ER, PR, Her-2/neu) was comparable in the subglandular and subpectoral groups. Patients with BRCA-1/2 mutations were significantly more likely to have had subglandular implants (p=0.005), but nearly half of patients were not tested for BRCA mutations in the subglandular and subpectoral groups (Table 4).

The most common presentation of breast cancer was by palpation of a mass in the subglandular and subpectoral groups, 57.1% and 54.8%, respectively. The remaining patients in each group were diagnosed with screening mammography or MRI. Although screening mammography was used to detect 41.9% of lesions in the subpectoral group versus 28.6% in the subglandular group, and MRI detection was used in 14.3% in the subglandular group vs. 3.2% in the subpectoral group (p=0.327), the differences did not reach statistical significance. No difference was observed in the ability of mammography to detect a lesion based on implant location since over 76.7% of lesions could be visualized (Table 5). Mammography failed to
identify 14.3% and 25.8% of lesions in the subglandular and subpectoral groups (p=0.421), respectively. BI-RADS scores were comparable. Patients with subpectoral implants had a higher rate of core needle biopsies (82.8% vs. 61.5%), and patients with subglandular implants had a higher rate of excisional biopsies (38.5% vs. 13.8%), p = 0.171.

Breast cancer treatment did not significantly differ between groups. Twenty one percent of the subglandular group received neoadjuvant therapy versus 16.1% of the subpectoral group with a mastectomy rate of 64.3% in the subglandular group vs. 77.4% in the subpectoral group. Breast conservation therapy (BCT) was 35.7% in the subglandular group and 22.6% in the subpectoral group. No statistical significance was reached regarding treatment differences (Table 5).