# PSN

### **Evidence Review**



## Risk of Breast Implant-Associated Anaplastic Large-Cell Lymphoma (BIA-ALCL)

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*Plastic Surgical Nursing (PSN)*, the official journal of the International Society of Plastic and Aesthetic Nurses (ISPAN) is introducing this new column to provide information about current evidence relative to plastic and aesthetic nurses.

reast implant-associated anaplastic large-cell lymphoma (BIA-ALCL) is a rare form of T-cell lymphoma that occurs in individuals who have had breast implants (Cleveland Clinic, 2019). BIA-ALCL is not breast cancer; rather, it is a cancer of the immune system (Cleveland Clinic, 2019). The disease appears to primarily affect individuals who have received textured breast implants (Cleveland Clinic, 2019). The lymphoma occurs in the scar tissue of the fibrous capsule that surrounds breast implants and may also spread to the lymph nodes (Cleveland Clinic, 2019). The disease progresses slowly and can often be treated by surgical removal of the breast implant(s) and surrounding scar tissue (Cleveland Clinic, 2019). If the cancer spreads to the lymph nodes in other parts of the body, BIA-ALCL can be fatal (Cleveland Clinic, 2019).

Cordeiro et al. (2020) conducted a prospective cohort study of patients who underwent breast reconstruction by a single surgeon at Memorial Sloan Kettering Cancer Center between December 1992 and December 2017. All of the study participants underwent mastectomy for breast cancer or prophylactic contralateral mastectomy using a two-staged procedure with macro-textured expanders and permanent implants placed in the submuscular position. In addition to implementing strict sterile technique, the researchers implemented measures to prevent infection that included the use of preoperative intravenous antibiotics, preoperative skin preparation with povidone–

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iodine, irrigation of the breast implant pocket with bacitracin, redraping before placement of the expander or implant, and postoperative administration of oral antibiotics while the surgical drains were in place. Exposure time was calculated from the time of textured implant placement until lymphoma diagnosis or last follow-up visit.

The results of the study showed that during a 27-year period, 3,546 patients underwent 6,023 breast reconstructions. After a median exposure time of 11.7 years (range = 7.4–15.8 years), 10 women developed BIA-ALCL (1:355). All of the women had textured implants. The median age at diagnosis was 60 years (range = 53-73 years). Seven women presented with unilateral peri-prosthetic fluid collection and were classified as Stage IA–IB, one woman had a localized mass and fluid collection and was classified as Stage IIA, one woman had a mass invading the pectoralis muscle and axillary lymph nodes and was classified as Stage III, and one woman had internal mammary lymph node involvement without identifiable capsular involvement or fluid collection and was classified as Stage IIB or III.

Other researchers have estimated the lifetime risk for BIA-ALCL as 1:6,920 (de Boer et al., 2018), 1:3,500 (McGuire, Reisman, & Murphy, 2017), and 1:3,817 (Loch-Wilkinson et al., 2017). At 1:355, this study found the risk to be much higher than previously reported. Although the researchers evaluated the risk from a prospective database with long-term follow-up, it is uncertain whether the data can be extrapolated to the overall implant population. However, if this level of risk is confirmed in a larger study, the use of macro-textured implants for aesthetic and reconstructive procedures, as well as the optimal level of follow-up for individuals with macro-textured implants, will need to be carefully evaluated.

If you have read or know about an important study relevant to plastic and aesthetic nursing and would like to see it presented in the *Evidence Review* column of *PSN*, please contact Sharon Ann Van Wicklin, Editor-in-Chief *PSN*, at sharonvwrn@ispan.org.

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