

United States Epidemiology of Breast Implant-Associated Anaplastic Large Cell Lymphoma

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Introduction: There are an estimated 10 million women worldwide with breast implants and over 550,000 implants placed per year in the United States. Breast implant-associated anaplastic large-cell lymphoma (BI-ALCL) is a distinctive type of T-cell lymphoma that arises around breast implants. Although rare, all cases of BI-ALCL with adequate surgical history have involved a textured breast prosthesis. Accurate estimations of the United States incidence and prevalence of BI-ALCL have been difficult to determine

Objective: To determine the United States incidence and lifetime prevalence of BI-ALCL in women with textured breast implants.

Methods: This is a retrospective review of documented cases of BI-ALCL in the United States from 1996 to 2015. The incidence and prevalence of BI-ALCL was determined based on textured breast prostheses sales figures from implant manufacturers' annualized data.

Results: One-hundred pathologically confirmed BI-ALCL cases were identified in the United States from 1996-2015. Mean age was 53.2 ± 12.3 years. Interval from implant placement to diagnosis was 10.7 ± 4.6 years. Forty-nine patients had breast implants placed for cosmetic reasons, 44 for mastectomy reconstruction and 7 were unknown. Patients were diagnosed with BI-ALCL before 2000 (7%), from 2000-2013 (70%), or after 2013 (23%). Assuming BI-ALCL occurs only in textured breast implants, the incidence rate is 2.03 per 1,000,000 person-years (200 per 100 million), which is 70 times higher than that of breast ALCL (3 per 100 million) $p < 0.001$. Lifetime prevalence was 33 per million persons with textured breast implants.

Conclusions: Although women with a textured breast prosthesis have an exceedingly low risk of developing BI-ALCL, the current United States incidence is significantly higher than that of breast ALCL in the population. Further studies are required to determine if geographic, genetic, or surgical technique variability affects comparative susceptibility and disease risk.