

Anaplastic Large Cell Lymphoma Arising in Association with Breast Implants and Mimicking Recurrent Breast Carcinoma: A Report of Five Cases

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Background: Breast augmentation is the most commonly performed cosmetic surgery in USA. Cancer can rarely occur in fibrous capsules surrounding implants and carcinoma is the primary concern. Primary anaplastic large cell lymphoma (ALCL) of the breast occurring in association with breast implants is another rare entity to consider in this setting with only 12 cases documented in literature. We present an additional five cases of breast implant-associated ALCL.

Design: Five cases of primary ALCL of breast associated with implants were retrieved from files of William Beaumont Hospital (2 cases), MD Anderson Cancer Center (2 cases) and Consultoria em Patologia, Brazil (1 case). Clinical and pathologic information was obtained.

Results: The patient ages ranged from 28 to 63 years. Breast augmentation was performed for cosmetic reasons in 2 cases and reconstruction following cancer surgery in 3 cases. Two patients had saline-filled implants, two had silicone gel-filled implants and one patient had saline filled implant with replacement by silicone gel-filled implant. Time of implant to diagnosis of ALCL ranged from 6 to 10 years. Two patients presented with implant-related contracture, two with peri-implant edema and the fifth case presented with hematoma following trauma. All cases showed anaplastic large dyscohesive tumor cells within the fibrous capsule of implant with associated extensive necrosis. The tumor cells stained positive for CD30 and were negative for ALK-1. Four were of T-cell lineage while one case was of null-cell type. Three patients received chemotherapy and were alive and disease free (4-10 years). One patient has insufficient follow-up due to recent diagnosis and one patient was lost to follow-up.

Conclusions: Pathologists need to be aware of this rare neoplasm which may occur in association with breast implants. These cases highlight the importance of examining breast capsule specimens. Presence of malignancy should prompt submitting the rest of the capsular tissue for evaluation, performing appropriate immunostains especially CD30, and obtaining a hematopathology consult if required. Implants whether saline- or gel-filled generally have silicone elastomer shells and the occurrence of ALCL in association with breast implants suggests a possible etiopathogenetic relationship.