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VIEWPOINT

Breast Implant-associated Lymphoma: What Is the True Incidence and Clinical Relevance?

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Sir:

Although rare, the entity of breast implant-associated (BIA) lymphoma is now widely documented and has become a significant public concern. Most cases represent anaplastic large cell lymphomas (ALCLs), of T-cell or null cell type.[1] BIA B-cell lymphomas are even rarer, with only 7 reported cases associated with silicone breast implants including one bilateral.[2] These include only one case of diffuse large B-cell lymphoma (DLBCL) and one case of intravascular LBCL.[3] In all cases, lymphomas were discovered in symptomatic patients typically presenting with late seromas. We present the first case of an incidental finding of a BIA DLBCL, in an asymptomatic patient, with an Epstein–Barr Virus (EBV) association, raising further concerns about the true incidence of this disease.

A 66-year-old woman underwent exchange of bilateral silicone breast implants in July 2017. She had previously undergone bilateral prophylactic mastectomies with immediate subpectoral, implant-based reconstruction 30 years prior, and 12 years following the initial reconstruction underwent implant exchange following detection of bilateral implant rupture. McGhan, anatomical, textured silicone implants were placed at this time. She presented 18 years later with concerns regarding the cosmetic appearance of her breasts. Examination revealed Baker Grade 3 capsular contracture bilaterally, with some asymmetry, and the patient underwent implant exchange with total capsulectomies. Capsule specimens from both breasts, although macroscopically unremarkable, were sent for routine pathology. Microscopy from the right side revealed a hyalinized fibrous capsule with calcification, a focal histiocytic and foreign body giant cell reaction, and two small foci of an atypical lymphoid proliferation of medium to large cells. The tumor cells are demonstrated in Figures 1 and 2.

Immunohistochemical assessment revealed strong diffuse positivity with B-cell markers CD20 and PAX5, along with CD45, CD43, CD30, and EBV on Epstein–Barr encoding region in situ hybridization (EBER-ISH). No reaction occurred with pan T-Cell markers: CD2, CD3, CD5, CD7, or ALK-1, overall leading to an interpretation of DLBCL associated with chronic inflammation.[4]

Following diagnosis, the patient underwent hemato-oncological assessment. PET and CT imaging and full blood examination were unremarkable. The patient has remained asymptomatic and disease free for 24 months.

DLBCL associated with chronic inflammation is a lymphoma that occurs in the context of long standing chronic

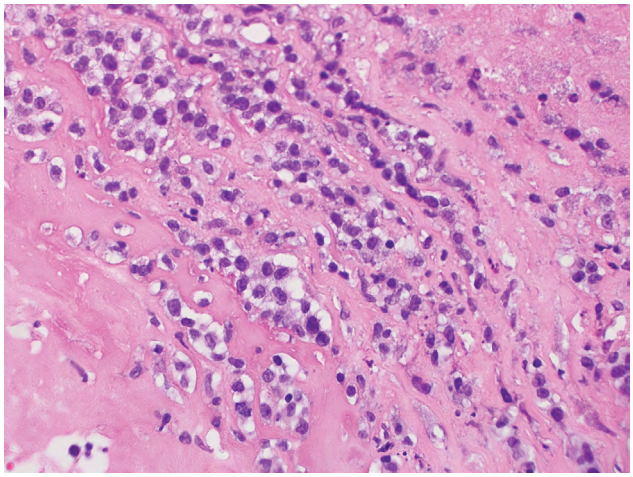

Fig. 1. H and E ×400 of tumor cells.

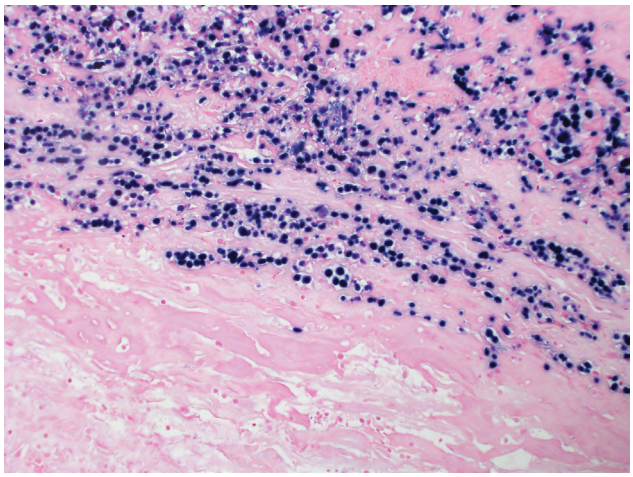

Fig. 2. ISH-EBER of tumor cells.

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inflammation and associated with EBV.[4] They occur most often as symptomatic mass-forming lymphomas with pyothorax, chronic osteomyelitis, metallic implants, and chronic skin ulcers.[4] The average time to the development of lymphoma is over 10 years. Within this group, there is a subtype of fibrin-associated DLBCL which is not mass-forming, asymptomatic, microscopic, and discovered incidentally. They occur in the walls of pseudocysts, hydroceles, cardiac myxomas and prostheses, hematomas, and thrombi. The risk of recurrence is low following surgical excision, and they typically demonstrate excellent clinical outcomes.[4] Our reported case falls within this later classification.

It is important to recognize that B-cell lymphomas can be BIA. DLBCL associated with breast implants are rare, with this case representing the second in the literature, and the only EBV related. This adds to the growing body of evidence and concern about BIA lymphomas, and raises questions as to its true incidence, spectrum of the entity, and its clinical relevance, warranting further research.

DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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