SOHO ANNUAL MEETING 2024

Breast Implant-Associated Anaplastic Large Cell Lymphoma Is an Increasingly Recognized Entity

F, Fuentes[1], C. Murillo[2], C. García[3]

1, 2, 3. University of Costa Rica, Costa Rica

UCR UNIVERSIDAD DE COSTA RICA

INTRODUCTION

Breast implant-associated anaplastic large cell lymphoma (BIA-ALCL) is a recently recognized entity by the World Health Organization (WHO). It has a low incidence (0.3/100,000 people) and is thought to be underdiagnosed. If recognized early, outcomes are typically good.

CASE PRESENTATION

A 49-year-old woman with a history of previous breast implant placement presented with asymmetry of the right breast 10 years after surgery. In the plastic surgery consultation, the surgeon noticed a seroma and suggested implant replacement. She underwent replacement surgery, but a thickened capsule was found, so capsulectomy and implant removal were performed. The pathology results revealed anaplastic large T-cell lymphoma. Laboratory tests, bone marrow biopsy, and CT were unremarkable. FDG-PET 7 months after surgery was negative, and she decided to remove both implants a year later. Pathologic analysis was normal. Since then, she has been under surveillance without symptoms of recurrence.

DISCUSSION

This case is relevant since there is little data about BIA-ALCL. Late-onset persistent seroma, effusion around the implant, breast asymmetry, and pain are the classical clinical presentation, usually occurring 11 years following implantation. Chronic inflammation has been proposed as a potential etiological factor; this is associated with bacterial biofilm, immune dysregulation, and patient genetics.

Current evidence suggests most cases of BIA-ALCL are associated with breast implants with textured surfaces. The International Agency for Research on Cancer is investigating this connection, and the FDA has proactively removed some textured implants from the US market.

A high suspicion index is required and should prompt breast ultrasonography or magnetic resonance with fluid aspiration or solid biopsy. Flow cytometry and immunohistochemistry typically show a single T-cell clone, CD30+, and negative anaplastic lymphoma kinase (ALK-).

Most BIA-ALCL patients present with localized disease, which confers excellent prognosis. Implant removal plus full capsulectomy is the treatment of choice, unlike other non-Hodgkin lymphomas, which require systemic therapy. Poor prognosis is associated with disease extension beyond the external capsule. FDG-PET is recommended for staging and follow-up. A small percentage have advanced disease, necessitating systemic therapies like other anaplastic T-cell lymphomas.

There should be awareness of this entity, early suspicion, concern with texturized implants, and sensitivity to the psychological implications it may carry.

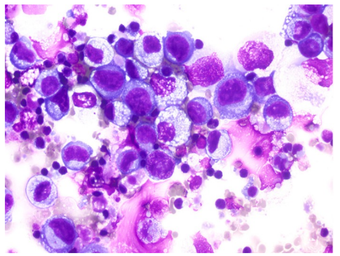


Figure 1. BIA-ALCL cytologic features (illustrative image) [7]

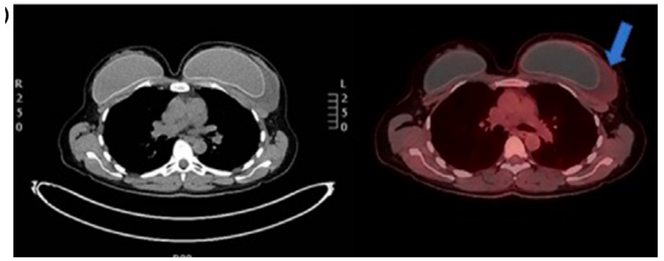


Figure 2. FDG PET/CT showing stage I BIA-ALCL (illustrative image)[12]

REFERENCES

1. Alotaibi, S. *et al.* (2021) 'Breast implant-associated anaplastic large cell lymphoma', *Clinical Lymphoma Myeloma and Leukemia*, 21(3). doi:10.1016/j.clml.2020.12.005.
2. Bewtra, C. and Gharde, P. (2022) 'Current understanding of breast implant-associated anaplastic large cell lymphoma', *Cureus* [Preprint]. doi:10.7759/cureus.30516.
3. Camp, M. (2021) 'Breast implant–associated anaplastic large cell lymphoma', *Advances in Surgery*, 55, pp. 299–306. doi:10.1016/j.yasu.2021.05.019.
4. Collado-Mesa, F. *et al.* (2021) 'Breast implant–associated anaplastic large cell lymphoma: Brief overview of current data and imaging findings', *Breast Disease*, 40(1), pp. 17–23. doi:10.3233/bd-201017.
5. Gunawardana, R.T., Dessauvagie, B.F. and Taylor, D.B. (2019) 'Breast implant-associated anaplastic large cell lymphoma, an under-recognised entity', *Journal of Medical Imaging and Radiation Oncology*, 63(5), pp. 630–638. doi:10.1111/1754-9485.12905
6. Marra, A. *et al.* (2020) 'Breast implant-associated anaplastic large cell lymphoma: A comprehensive review', *Cancer Treatment Reviews*, 84, p. 101963. doi:10.1016/j.ctrv.2020.101963.
7. Marques-Piubelli, M.L. *et al.* (2023) 'Breast implant-associated anaplastic large cell lymphoma', *Surgical Pathology Clinics*, 16(2), pp. 347–360. doi:10.1016/j.path.2023.01.003.
8. McKernan, C. (2021) 'Treating breast implant-associated anaplastic large cell lymphoma', *JAAPA*, 34(4), pp. 47–51. doi:10.1097/01.jaa.0000735780.35691.e5.
9. Sharma, B. *et al.* (2020) 'Breast implant–associated anaplastic large cell lymphoma: review and Multiparametric Imaging Paradigms', *RadioGraphics*, 40(3), pp. 609–628. doi:10.1148/rg.2020190198.
10. St. Cyr, T.L. *et al.* (2020) 'Breast implant–associated anaplastic large-cell lymphoma: Current understanding and recommendations for Management', *Plastic Surgery*, 28(2), pp. 117–126. doi:10.1177/2292550320925906.
11. Zhang, X.-R. *et al.* (2022) 'Anaplastic large cell lymphoma: Molecular Pathogenesis and treatment', *Cancers*, 14(7), p. 1650. doi:10.3390/cancers14071650.
12. Thashila R, et al. (2019). Breast implant-associated anaplastic large cell lymphoma, an under-recognized entity, Journal of Medical Imagin and Radiation Oncology.

CONTACT INFORMATION

fabiola.fuentesa18@gmail.com