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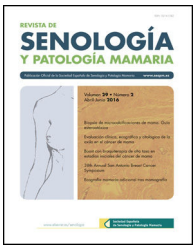

EDITORIAL

Current updates on Breast Implant-Associated Anaplastic Large Cell Lymphoma (BIA-ALCL)

El linfoma anaplásico asociado a implantes mamarios (BIA-ALCL). Actualización del diagnóstico y tratamiento

Breast Implant-Associated Anaplastic Large Cell Lymphoma (BIA-ALCL) is a recently recognized subtype of anaplastic large cell lymphoma (ALCL), arising primarily in the space between the breast implant and the capsule. It usually presents in the form of a late seroma, almost exclusively in women with textured surface breast implants.[1] Occasionally, BIA-ALCL can involve the capsule around the implant, the adjacent tissue and/or the regional lymph nodes. Latency time from initial exposure to the occurrence of BIA-ALCL is estimated by recent series to be about 10 years after implantation (range 2.2 months to 28 years).[2] Unlike the usual presentation of ALK negative ALCL, that requires chemotherapy and frequently autologous hemopoietic cell transplant consolidation, BIA-ALCL is more often indolent and, when presenting as localized seroma, it can be managed with implant and capsule removal only.[3,4] In case of more extensive presentation, lymphoma directed chemoimmunotherapy, such as the recently approved Brentuximab Vedotin (BV)-cyclophosphamide-doxorubicin-prednisone (BV-CHP) might be necessary.[5] In the last issue, a consensus article regarding BIA-ALCL has been launched by the Spanish Society of Senology and Breast Disease to provide useful clinical information and recommendations to specialists dealing with this new breast disease.[6,7]

Recent studies have demonstrated the association of BIA-ALCL and exposure to textured breast implants.[8,9] After the first case was described in 1997, 656 cases have been identified worldwide and 17 deaths were reported as of November 2018. The published estimated lifetime risk of BIA-ALCL in international series ranges from 1:1000 to 1:10,000 women with textured breast implants. Many of these epidemiologic data are approximated, and it is a common opinion that the risk might be higher, especially for macrotextured high-surface implants.[10]

The risk of BIA-ALCL seems to be primarily associated to textured-surface implants. Data from the PROFILE database, of the American Society of Plastic Surgery, document that BIA-ALCL cases have been exposed somehow to textured surface implants or expanders, and no cases of BIA-ALCL have been reported in women with exclusively smooth implant devices.[10] The highest risk reported so far, 1/2832 has been associated with the polyurethane high surface area and high roughness implants.

BIA-ALCL typically presents as a non-resolving seroma, and it is diagnosed by flow cytometry performed on the fluid that accumulates between the capsule and the breast implant. Any seroma – found with ultrasound or breast magnetic resonance (MRI) – arising more than one year after breast implant placement should be evaluated with flow cytometry. Masses should undergo routine biopsy. It is important to advise the pathologist of BIA-ALCL suspicion, since CD30, one of the characteristic markers of ALCL, is not routinely performed on regular flow cytometry or immunohistochemistry (IHC).

A PET scan is necessary to stage the disease and exclude systemic involvement. We generally advise PET staging before implant and capsule removal, as surgery might partially compromise the signal of the fluorodeoxyglucose (FDG) uptake of the PET. After capsule and implant removal, complete pathologic exam of the capsular tissue is essential to determine local staging. We do not routinely advise to perform bone marrow biopsy, or peripheral blood flow cytometry.[3,4]

Management of BIA-ALCL depends on the stage of the disease. Early stage localized disease (IA-IC), based on the MD Anderson Cancer Center TNM staging system[3] represent about 85% of all cases, and can be managed with bilateral implant removal and capsulectomy. Radical mastectomy is not necessary, but removal of the entire capsule

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is essential to lower the risk of recurrence. Pathological intraoperative frozen section may help with resecting all capsule-associated masses, however, immediate IHC for the CD30 marker is not feasible in this setting.[3,4]

For more advanced stage, mass presentation or incomplete resection of the capsule, adjuvant therapy may be needed to consolidate the surgical results. This needs case-by-case evaluation: patients with regional lymph node involvement only, can undergo radiation therapy; rare cases with disseminated disease might benefit from a more aggressive approach including chemotherapy and autologous stem cell transplantation. Chemotherapy with anti-CD30 Brentuximab Vedotin and cyclophosphamide-doxorubicin-prednisone (BV-CHP) has been recently approved in the USA for the treatment of systemic ALCL and has demonstrated to have a survival advantage over standard CHOP therapy in these patients. However, no data is available in the BIA-ALCL specific setting.[3–5]

For women with BIA-ALCL, after implant removal, follow up every 3–4 months for the first year with a physical exam is recommended to assess for recurrence, and subsequently every 6 months to a year. Reconstructive surgery with autologous tissue, fat grafting or smooth implant placement have been utilized,[4] but it is generally our recommendation not to further place any type of implant. It has been reported that one patient had recurrent disease 2 years after reconstruction with a smooth device, but it is unclear if this was related to incomplete removal of the capsule, or to the implant replaced. The woman was treated successfully with re-explantation and complete capsulectomy.[4] Replacement with another textured surface implant is definitely not prudent. Women with textured breast implants in place, without any evidence of BIA-ALCL or seroma do not need any specific monitoring for BIA-ALCL. They can undergo the regular mammogram screening for breast cancer.

In conclusion, BIA-ALCL represents a rare side effect of textured breast implants. As of today, knowledge of this disease remains limited, but is changing rapidly, and management of women with implants is unclear and evolving. As warnings about BIA-ALCL occurrence reach the public, it is becoming more frequent for women with breast implants, to express concern about the risk of BIA-ALCL and enquire about the possibility of implant removal or alternative reconstruction. Currently there is no recommendation for routine removal or replacement of implants, but if the patient has enough concern, reasonable options range from simple observation, to replacement with a flap or with a smooth implant, to removal without reconstruction. There is no current data to support that any of these options eliminate risk of BIA-ALCL, while surgery with general anesthesia, has a well-defined risk profile. It is becoming clearer instead, that it is less advisable, based on increasing data, to continue implanting macro-textured devices. It is our current practice, to implant exclusively smooth surface expanders and permanent implants.

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