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SHORT COMMUNICATION

Early indicators in anaplastic large-cell periprosthetic lymphoma of the breast: clarifications

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Summary

In the present study the authors clarify some clinical and radiological aspects found in their study on periprosthetic anaplastic lymphoma (BI-ACL). In particular they confirm cold seroma as an early sign of disease associated with amorphous aggregates visible in ultrasound and magnetic resonance imaging.

Key words: *breast implant, periprosthetic anaplastic lymphoma, breast cancer magnetic resonance imaging, computer-aided diagnosis*

Dear Editor,

With reference to our article [1] published in this Journal, the same authors, in the light of further cases observed during clinical practice, would like to further clarify some aspects in relation to what was written in the first study.

In our case the cold seroma would be confirmed as the first clinical sign of large-cell periprothetic anaplastic lymphoma (BI-ALCL): several months after surgery and without any signs of external inflammation or traumatic anamnesis, this sign alone could be highly orientative in the diagnosis of disease in the early stages, especially in longstanding textured prothesis-bearing women [2].

However, in our experience, we report the appearance of seroma only 10 months after the positioning of the implant which would suggest the possible association of other pathological mechanisms besides the more consolidated one of chronic inflammation related to the degradation products of the prothesis [2,3]: this aspect could be object of future in-depth study.

The assessment of a seroma, the first sign of the disease, classically located between the prothesis and the periprothetic fibrous capsule, is carried out by means of both the ultrasound (US) and breast magnetic resonance imaging (MRI): US is an easily executed investigation which is widely available and allows the aspiration of exudates for the targeted cytological investigation and the eventual confirmation of clinical suspicion, while MRI is a multiparametrical exam which provides the best characterization of tissues or necrotic material even in areas which are not easily explorable by US (posterior region).

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It is important to underline how both US and MRI, in our experience, show only full-thickness alterations in the capsule in the advanced stages (starting from stage T2), while in the early stages the only visible sign is seroma with amorphous aggregates in context [4].

Indeed, our cases have shown that besides fibrin there is an elevated quantity of cellular necrosis in the exudate which can be largely attributed to the quantity of amorphous material reported within or adherent to the periprothetic site visible in MRI. What emerges from the aforementioned is a re-dimensioning of the use of MRI with respect to the protocols originally proposed in our first study in that these aggregates could also be recognized in US.

As a general rule, we recommend US as a first line screening examination and MRI as a second line in-depth investigation in case of doubt: in the latter cases a further development could be that of programming Computer Aided Detection/diagnosis (CAD) in the automatic recognition of necrotic aggregates in seroma in the very early stages as already occurs in mammography and in MRI in the detection and characterization of suspect breast lesions [5-9]: these aspects will be objects of future in-depth studies.

Additional diagnostic support might result from techniques of US/MRI image fusion [10].

Moreover, our case study only highlights disease in textured implants (100% of the cases) both in subglandular and submuscular implants, in cases of reconstructive implants for breast cancer and in esthetic implants, in line with what has been reported in the literature so far [1-4].

Conflict of interests

The authors declare no conflict of interests.

References

1. La Forgia D, Moschetta M, Fausto A et al. Anaplastic large-cell periprosthetic lymphoma of the breast: could fibrin be an early radiological indicator of the presence of disease? JBUON 2019;24:1889-97.
2. Xu J, Wei S. Breast Implant-Associated Anaplastic Large Cell Lymphoma: Review of a Distinct Clinicopathologic Entity. Arch Pathol Lab Med 2014;138:842-6.
3. De Boer M, van Leeuwen FE, Hauptmann M et al. Breast Implants and the Risk of Anaplastic Large-Cell Lymphoma in the Breast. JAMA Oncol 2018;4:335-41.
4. Clemens MW, Nava MB, Rocco N, Miranda RN. Understanding rare adverse sequelae of breast implants: anaplastic large-cell lymphoma, late seromas, and double capsules. Gland Surg 2017;6:169-84.
5. Fanizzi A, Basile TMA, Losurdo L et al. Hough Transform for Clustered Microcalcifications Detection in Full-Field Digital Mammograms. Proceedings of SPIE - Applications of Digital Image Processing XL. 2017;10396.
6. Losurdo L, Fanizzi A, Basile TMA et al. A combined approach of multiscale texture analysis and interest point/corner detectors for microcalcifications diagnosis. Appl Evol Comput 2018;302-13.
7. Losurdo L, Basile TMA, Fanizzi A et al. A Gradient-Based Approach for Breast DCE-MRI Analysis. BioMed Research Int 2018;9032408.
8. Basile TMA, Fanizzi A, Losurdo L et al. Microcalcification detection in full-field digital mammograms: A fully automated computer-aided system. Physica Medica 2019;64:1-9.
9. Fanizzi A, Basile TMA., Losurdo L et al. A Machine Learning Approach on Multiscale Texture Analysis for Breast Microcalcication Diagnosis. BMC Bioinformatics 2020;21(Suppl 2):91.
10. Fausto A, Bernini M, La Forgia D et al. Six-year prospective evaluation of second-look US with volume navigation for MRI-detected additional breast lesions. Eur Radiol 2019;29:1799-1808.