



“Warning” to postoperative complications when using hemostatic agents!

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Sir,

We have read with interest the article by Al-Afif S et al. entitled “Intracranial foreign material granulomas after cranial surgery” published on *Acta Neurochir* [1].

The Authors in their work found that the granulomas after cranial surgery were induced by oxidized cellulose polymer in six patients. They show that “foreign body granuloma should be taken into consideration in the differential diagnosis of intracranial mass lesions especially in cases of suspected tumor recurrence after prior surgery. The pathogenesis of foreign body granuloma still needs further clarification.”

We have previously reported our experience with the use of oxidized regenerated cellulose (ORC), at the Catholic Breast Unit of Rome, as a possible aid to reduce the risk of postoperative hematoma and infections and to improve the esthetic outcomes in patients undergoing an oncological procedures for breast cancer [2, 3].

However, as new hemostatic preparations made of the cellulose derivatives is being increasingly utilized in surgery [1–6], we think that it is important to properly inform the patients not only about the potential advantages but also about the possible postoperative complications of these materials. Tanaka et al. report an 18% rate of allergic reaction with the use of ORC, mainly presenting as acute dermatitis and eczema, and one case of exudation followed by wound dehiscence [4]. In our series, we noted a 10% rate of allergic skin reactions with irritation, redness, itching, swelling, rash, and hives in the

mammary region, successfully managed with steroids and antihistamine medications. In addition, we experienced a significant seroma in the site of ORC placement in 45% of our patients [3]. This seroma that appears in the early postoperative period as consequence of redundant ORC digestion normally resolved within a few weeks with repeated percutaneous aspirations, but in two cases, it was followed by the formation of an abscess in the residual cavity that required surgical drainage. We also had a case of a foreign body reaction that required surgical excision to solve the complication (Fig. 1).

Besides, we think it is important to call the attention of radiologists on the peculiar findings that the preparation made of the cellulose derivatives as ORC may determine on postoperative ultrasound (US) examination that often leads to undue alarmism.

In our series, peculiar fluid anechoic accumulation containing small hyperechoic, round components were documented on breast US examination (performed 6 months after surgery)



Fig. 1 A foreign body reaction that required surgical excision after 6-month follow-up in a patient treated by breast oncological conservative surgery with ORC

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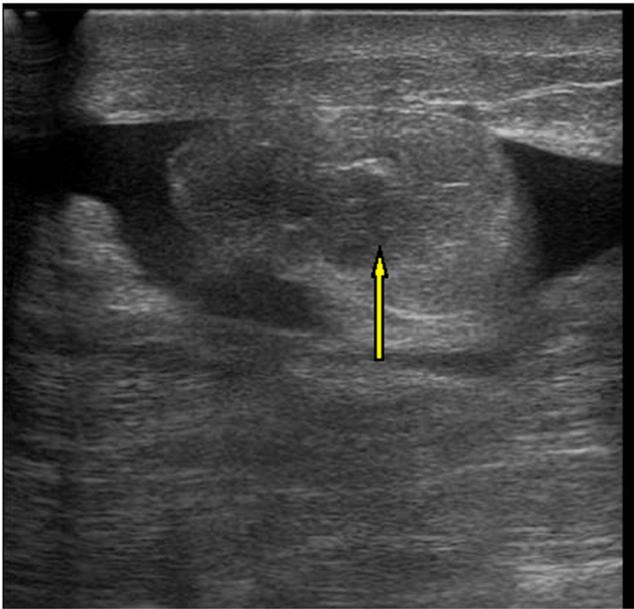


Fig. 2 Ultrasound images (Siemens Antares sonography unit, Siemens Medical Solutions, Sweden) at 6-month follow-up in three patients treated by breast oncoplastic conservative surgery with ORC. With the use of a high-frequency 10–13-MHz linear array transducer, a free anechoic collection without wall with the presence of typical small hyperechoic round masses (yellow arrow) in continuity with the breast parenchyma is showed

in all cases. This typical round image (that we named “ile-flottante”) (Fig. 2) is a consequence of the fibrogenetic action induced by ORC and of the partial reabsorption of this biomaterial. It appears non-mobile, avascular, and adherent to the parenchymal tissue planes and is often misinterpreted in an alarming way by the radiologists. The diagnostic interpretations in our patients varied from possible residual disease to hematoma sequelae, local abscess, or area of fat necrosis.

In conclusion, when using a preparation made of the cellulose derivatives, as a possible aid to reduce the risk of postoperative hematoma and infections, it is important to discuss with the patient also about the possible postoperative complications. It is also important that surgeons specify clearly the use of this biomaterial in the report of the surgical procedure so that radiologists can properly interpret the sonographic findings due to this biomaterial and avoid misdiagnosis and undue alarmism during the follow-up of these patients.

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