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Abstract Submission FORM

SURGICAL MANAGEMENT OF MRONJ WITH THE USE OF HUMAN AMNIOTIC MEMBRANE (hAM): TWO CASE REPORTS

SECTION: 2B

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Background. The human amniotic membrane (hAM) has several beneficial effects, including low immunogenicity, anti-inflammatory, antifibrotic, antimicrobial and analgesic properties. It's also a source of stem cells and growth factors that promote tissue regeneration. hAM acts as a barrier with suitable mechanical properties such as permeability, stability, elasticity, and resorbability, which help prevent the proliferation of fibrous tissue and promote early neovascularization at the surgical site. In oral surgery, hAM stimulates healing and facilitates the proliferation and differentiation of epithelial cells in the oral mucosa leading to its regeneration. At the Oral Surgery Unit of the C.I.R. Dental School of Turin, we are conducting a pilot-study to test the use of cryopreserved hAM for patients with stage 2–3 MRONJ.

Patients and methods. A 49-year-old female patient with breast cancer with bone metastases treated with Zoledronic Acid from January 2013 to January 2014, in supportive therapy with Denosumab from January 2014 to today was treated for recurrence of MRONJ in quadrant IV. The patient undergoes sequestrectomy surgery, carrying out osteoplasty of the necrotic bone with piezosurgery and positioning the hAM on the treated bone, after a first surgical failure.

An 84-year-old female patient with breast cancer with bone metastases, treated with Denosumab since August 2022 was treated for MRONJ of the II quadrant. The patient undergoes sequestrectomy surgery, carrying out osteoplasty of the necrotic bone with piezosurgery and positioning the hAM on the treated bone.

Results. Patients were enrolled in a regular follow-up schedule, which consisted of visits on the following post-intervention days: - 7 days (suture removal); - 14 days, - 1 month, - 2 months. At each follow-up visit, the primary endpoint was determined through a clinical evaluation of bone reexposure and the extent of wound healing.

Secondary endpoints were evaluated at each follow-up visit: - signs of inflammation, (presence of local erythema, easily hemorrhagic surgical site,..); - infection, (presence of purulent discharge, abscess, or cellulitis).

In Patient 1 partial bone reexposure was reported 1 week after surgery. The treated lesions had partial bone reexposure (less than one-third relative to preoperatively) located on the anterior part of the wound.

14 days after surgery, the posterior mandibular part had healed correctly, but the bone was still reexposed in the anterior mandibular part. The patient remained asymptomatic.

After 1 month, the whole surgical site was almost completely reepithelialized. After 2 months, the patient was completely pain-free, the surgical site was clean, and no adverse effect was noticed.

In Patient 2 an hematoma was reported 1 week after surgery. 14 days after surgery, the whole surgical site was almost completely reepithelialized.

After 1 month, the whole surgical site was almost completely reepithelialized. After 2 months, the patient was completely pain-free, the surgical site was clean, and no adverse effect was noticed.

The patients will be re-evaluated at 6 months with new radiographic imaging.

Conclusions. It is known that hAM is being used in oral surgery, but there is insufficient clinical evidence to prove its superiority over traditional surgery in this field. Nevertheless, hAM shows potential as a viable alternative for MRONJ surgical treatment. Further studies are required to ascertain the effectiveness of hAMSC-based therapy in treating bone diseases. Despite the limitations of a case report, our pilot study provides preliminary data that is encouraging with regards to the use of hAM in the surgical treatment of MRONJ.

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L'abstract (tutto in inglese titolo e testo) deve essere contenuto all'interno della prima pagina del form.