Letter to the Editor

Buccal fat pad flap for the closure of oro-antral communication resulting from osteoradionecrosis

Dear Editor,

Nabil and Ramli, in their recent paper “The use of buccal fat pad in the treatment of osteoradionecrosis”, attributed the outcome of surgical treatment to the size of the defect and co-morbidity of their patient. However, all their cases of failed buccal fat pad flap were related to stage III osteoradionecrosis of the mandible, with also one stage II osteoradionecrosis in a patient with a co-morbidity. Sadly, none of their cases were stage III osteoradionecrosis of the maxilla, a situation for which I would be interested to know if this flap works. In my experience, the management of osteoradionecrosis in the maxilla may be different if the maxillary antrum is also involved (stage III[Max] based on the modified classification of Nabil and Ramli). This is because closing an oro-antral communication in a patient without radiation therapy itself can be a clinical challenge, so what more if the vascularity of the surgical site is compromised following radiation therapy. I have previously highlighted the problem of a failed buccal fat pad flap to close an oro-antral fistula that resulted from osteoradionecrosis of the maxilla, and I believe a reason for this failure is related to the compromised vascularity in the recipient site, instead of the size of the defect. This is because Poeschl et al. were able to close rather large oro-antral fistulas, even in cases that resulted from osteoradionecrosis.

Recently I have been fortunate to attempt again the use of the buccal fat pad to close an oro-antral fistula that resulted from osteoradionecrosis, and this experience has allowed me to make a comparison between this case and the failed earlier case. A 43-year-old Chinese gentleman presented to our clinic requesting the removal of all the retained roots on his upper left quadrant. He had undergone radiation therapy for nasopharyngeal carcinoma, and over the years, the teeth had decayed until only root stumps remained. One other complaint he had was pus discharging at the site of the root of 28 (Fig. 1). The infection was controlled with antibiotics, but he still complained of having fluid discharging from the sinus. A decision was made to remove all the root stumps and observe the healing of these sockets. Overall, the dental extractions were uneventful, but he returned with a complaint of continuing fluid discharge from his nose. An oro-antral fistula of about 5 mm in diameter was noted at the socket of 28. This fistula was closed with a local buccal advancement flap, which unfortunately failed. Hyperbaric oxygen was contemplated, but as his extraction sockets were showing slow signs of healing over a period of 1 month, it was decided to further attempt to close the fistula with a buccal fat pad. This proved to be successful (Fig. 2). When comparing both experiences, I noticed that the vascular supply on the failed case was

Fig. 1. Pre-extraction dentopantomogram showing multiple retained roots and a dubious radiolucency along the root of 28.

Fig. 2. Clinical appearance of the oro-antral fistula at 28, closed with a buccal fat pad flap at 1 month.
so compromised that the upper left third molar dropped off by itself. In contrast, the extraction sockets in the recent case were capable of healing, albeit more slowly than normal.

Lastly, I noted that one of the patients reported by Nabil and Ramli was given intravenous bisphosphonate and underwent radiation therapy. It is difficult to attribute the exact cause of the osteonecrosis in this case, but having said that, the improvement shown in this patient seems to suggest that the buccal pad fat is a useful flap to treat osteonecrosis of the jaw, be it due to radiation therapy or bisphosphonate-induced.

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None.

**Funding**

None.

**Ethical approval**

Not relevant.

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**References**

