EDITORIAL

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The use of buccal fat pad in oral and maxillofacial reconstruction

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Buccal fat pad has become a well accepted graft for the reconstruction of intraoral defects. Oroantral communicating defects are often induced by tooth extraction, removal of cyst and benign tumor, resection of malignant tumor. Theses defects can be reconstructed by soft tissue coverage such as skin grafts and vascularized free flaps with or without bone graft. But such surgical techniques are very complex and technique sensitive.

Buccal fat pad graft is a very simple and reliable technique for reconstruction of these defects. Many published studies have reported a high success rate[1]. Buccal fat pad flap can be an effective method for closure of small to medium-sized oroantral communicating defects. The buccal fat pad is a mass of specialized fatty tissue. It is distinct from subcutaneous fat and is similar to orbital fat. Because it lies in the masticatory space between the buccinator and masseter muscle, buccal fat pad as a pedicled flap is mainly used to cover defects in the posterior maxilla, and buccal region. This method has the limitations of not being capable of covering large defects and defects in the anterior region of maxilla. It is only capable of covering small to medium defects about 4 cm in diameter[2]. The advantage of buccal fat pad graft is that it can quickly epithelize with or without exposure. The regenerated epithelium is parakeratinized stratified squamous epithelium and looks similar to oral epithelium. Such characteristics allow successful coverage of exposed bone due to osteonecrotic lesion like medicationl-related osteonecrosis of the jaw (MRONJ). It can be used as pedicled grafts in many facial augmentation procedures. Komatsu et al.[3] reported tissue augmentation of a facial depression deformity caused by scarring.

Recently, some studies isolated adipose-derived stem cells from the buccal fat pad as a potential source of stem cells for bone regeneration. Adipose-derived stem cells derived from buccal fat pad have shown to differentiate into chondrocytes, osteoblast, or adipocytes *in vitro*[4]. Khojasteh and Sadeghi[5] reported that the application of buccal fat pad-derived stem cells in combination with autogenous iliac bone graft showed an increase in the amount of new bone formation and a decrease in secondary bone resorption in extensively atrophic jaws. Therefore buccal fat pad could be considered as a potential cell source for bone engineering in the oral and maxillofacial region.

It can be concluded that buccal fat pad is an effective reconstructive methods for intraoral defects because of its simple access and rich blood supply. Buccal fat pad could also be considered as a potential cell source for bone engineering and reconstruction in the oral and maxillofacial region.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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