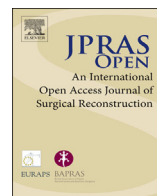




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Case Report

Sudden shrinkage of free rectus abdominis musculocutaneous flap 15 years after maxilla reconstruction

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ABSTRACT

A 60-year-old male displayed sudden shrinkage of a left free rectus abdominis musculocutaneous flap, which had been grafted to his left maxilla 15 years previously. No post-reconstructive irradiation had been performed, and no late occlusion of the vascular anastomosis, local infection, recurrence of the maxillary cancer, or body weight loss was observed. However, the shrinkage amounted to approximately 50%. This is considerably more than previously reported cases of shrinkage of various free flaps, which ranged between 10% and 25%. The resultant depression was successfully augmented with a right free deep inferior epigastric artery perforator flap. The residual fat volume of the previously grafted shrunken flap was revealed to be compatible with that of the newly harvested contralateral perforator flap. Thus, the volume of the previously grafted flap may reflect the status of the intact contralateral donor site, although the mechanism of sudden flap shrinkage is unclear.

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Introduction

In free flap reconstruction, postoperative atrophy of the graft may occur. It is well known that muscular component atrophy occurs extensively within several months. In addition, fat tissue of the flap is also reported to potentially display a volume loss of 10%–25%. However, it is generally believed that the flap maintains its volume after the fat loss if there is no major body weight loss.

Here, we present a case of sudden massive shrinkage of a previously grafted free flap, 15 years after the patient had undergone free rectus abdominis musculocutaneous (RAMC) flap reconstruction for maxillary cancer. Although the cause of the sudden shrinkage was undetermined, the resulting deformity was successfully repaired with a free deep inferior epigastric artery perforator (DIEP) flap.

Case report

A 44-year-old male underwent left maxillectomy for maxillary cancer (T3N1M0), left neck dissection, and immediate reconstruction with a left free RAMC flap in April 2000. He received adjuvant radiotherapy (34 Gy) and arterial injection chemotherapy preoperatively. No post-reconstructive irradiation was administered. The postoperative course was uneventful, and follow-up was completed 5 years postoperatively (Figure 1).

However, in December 2014, the patient developed exercise-induced dyspnea. Furthermore, in November 2015, he noticed transient hematuria and edema of the lower extremities, and felt a rapid shrinkage of his left cheek as well as his oral lining. This had a negative impact on his speech, causing him to have to re-order new dentures. There was no loss of body weight; on the contrary, he expe-



Figure 1. Five years after the primary reconstruction using the left RAMC flap, showing an adequate volume and a good contour of the left cheek.

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