

Reconstruction of the Posterior Neck and Occiput using a Pedicled Pectoralis Major Musculocutaneous Flap

Pediküllü Pektoralis Major Kas Deri Flebi ile Posterior Boyun ve Oksiput Rekonstrüksiyonu

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Dear Editor,

The pectoralis major musculocutaneous flap (PMMF) is a commonly used flap for head and neck reconstruction. It was first described by Hueston and McConchie¹ in 1968 as a rotational flap to repair a sternal defect. The flap was to be redescribed with respect to head and neck reconstruction by Ariyan in 1979.^{2,3} Although the increased use of free-tissue transfers to reconstruct complex bony and soft-tissue defects has overshadowed the PMMF to some extent, in several cases the PMMF still has its advantages, including its proximity to the head and neck, the simplicity of harvesting, and its use as an alternative when microvascular flap failure occurs.

A 58 year old patient was consulted from General Surgery Department. Previously the patient underwent squamous cell carcinoma excision from right posterior neck and occiput region. Following the wide local excision, reconstruction was performed by split thickness skin graft from left thigh. However the deep margin of surgical specimen was positive for tumor and the patient had a right cervical palpable lymphadenopathy. Therefore he was decided to have reexcision and posterolateral neck dissection. After sufficient oncological margins were achieved, which were confirmed by frozen section examination, posterolateral neck dissection was completed (Figure 1). With an oblique skin island designed over the muscle, the PMMF was harvested (Figure 2) and transposed into the defect under a skin bridge created over the clavicle (Figure 3). No complication was encountered in the early postoperative period. At the 6th month visit, the PMMF was found to incorporate the posterior neck and occiput region well (Figure 4,5). With the exception of a slight upper translocation of nipple areola complex of ipsilateral side (Figure 6), the scars healed fairly good. The patient did not complain any restricted neck motion or pain.



Figure 1. Appearance of posterior neck and occiput region after completion of reexcision and posterolateral neck dissection

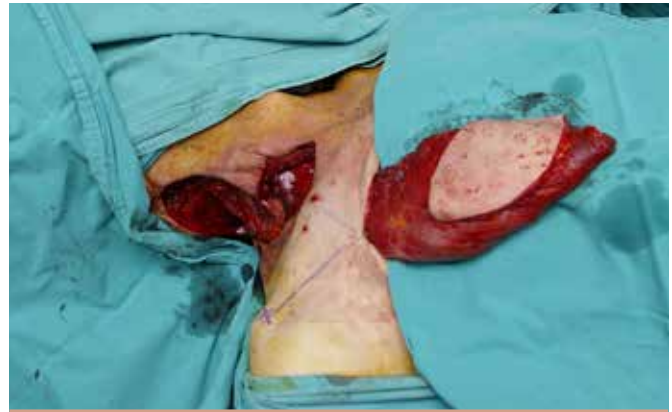


Figure 2. Harvested pectoralis major musculocutaneous flap



Figure 3. The flap was transposed to the defect under a skin bridge over the clavicle



Figure 4. Postoperative 6th month lateral appearance



Figure 5. Postoperative 6th month posterolateral appearance

Head and neck reconstruction is unique in the demand for fairly complex closures, requiring attention to coverage, support, and lining often in a 3-dimensional nature. The goals are not only functional (ie, speech, swallowing, and respiration), but aesthetic as well. Therefore PMMF is incomparably superior to the skin grafts.⁴



Figure 6. Superior translocation of the nipple-areola complex on the right side

The advantages to the PMMF technique include the consistent anatomy in close proximity to the head and neck region, a reliable skin island that can be made large enough to cover most defects within the arc of rotation. Coverage is possible almost anywhere within the oral cavity, and can be extended to reach the level of the lateral orbital rim if necessary.⁵ Several authors described the extended pectoralis major flap whose skin paddle extended caudally by including the rectus fascia, down to the periumbilical region-owing to a rich vascular network anastomosing with the superior epigastric system.⁴ The muscle component is well vascularized and often enough to minimize fistula formation when used for intraoral defects, provide bulk for contour defects, or cover neck structures protecting the carotid artery, especially in irradiated patients.⁶

Although the pectoralis muscle flap can be harvested without marked difficulty, and low complication rates (in general, PMMFs have a 2% or less total flap failure rate and a 7 to 9% partial flap failure rate) one must remain aware of potential donor site morbidity.⁷ The disadvantages of the PMMF are that it is a pedicled flap and subsequently has some limitations in inset. The skin island can also be relatively bulky and hirsute in men.⁵

The pedicled pectoralis muscle flap can be harvested safely and used reliably to reconstruct diverse head and neck defects.

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