Rhomboideus Perforator Flap: A Variation of the Dorsal Scapular Island Flap

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INTRODUCTION: For head, neck, and anterior thorax reconstruction, the original dorsal scapular island flap is an alternative that does not require microsurgery, making it particularly useful in rural areas. It is irrigated by the inferior trapezius perforator, which comes off the superficial branch of the dorsal scapular artery.[1] The flap is usually harvested with part of the lower trapezius muscle. When a thin flap is indicated, the trapezius perforator must be completely dissected, which is a time-consuming procedure.

The deep branch of the dorsal scapular artery supplies an easily dissectible rhomboideus cutaneous perforator; we hypothesized that this rhomboideus perforator could be used for a thin skin flap. Additionally, for three-layered mandibular defects, we hypothesized that two independent flaps could be harvested from the dorsal scapular artery: an inferior trapezius skin flap and a rhomboideus chimera flap composed of scapula and skin. This technique offers an alternative when microsurgery or fibular free flaps are not an option; it can also be used to salvage failed fibular free flaps. We present our 10-year experience with the versatile uses of this novel “rhomboideus perforator” flap.

METHODS: Twelve patients (7 females) were treated with rhomboideus perforator flaps. Eight cases required only cutaneous rhomboideus perforator flaps for neck resurfacing: three for laryngectomy coverage, three for salvage of previous free flaps for anterior neck burn reconstruction, and two for salvage of previous free flaps for anterior thorax reconstruction.

Four cases of three-layered mandibular defects secondary to oncologic ablation were covered with an inferior trapezius skin flap and a rhomboideus chimera flap composed of scapula and skin.

At time of follow-up (3-120 months, mean = 54), patients were evaluated for flap survival and functional status.

RESULTS: Flaps measured between 22x6 cm and 32x8 cm. All flaps healed completely by day 14 postoperatively. There were no complications. At the time of follow up, all flaps appeared healthy, and patients had full range of motion of the involved regions.

CONCLUSION: This represents the first description of the rhomboideus perforator flap. This novel addition to the reconstructive surgeon’s armamentarium is a safe and versatile option for head, neck, and anterior thorax lesions. It has particular utility for three-layered mandibular lesions, lesions that require thin flap coverage, and lesions in which microsurgery is not an option.

REFERENCES:

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