

Comparison of Posteromedial Thigh Profunda Artery Perforator Flap and Anterolateral Thigh Perforator Flap for Head and Neck Reconstruction

Jerry Chih-Wei Wu, MD; Jung-Ju Huang, MD; Ming-Huei Cheng, MD, MBA

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INTRODUCTION: The anterolateral thigh perforator flap is a common workhorse flap for head and neck reconstruction. We presented an alternative method using the posteromedial thigh profunda artery perforator flap and compared its flap characteristics, outcomes, donor-site morbidity and donor-site cosmesis with those of the anterolateral thigh perforator flap.

MATERIALS AND METHODS: Between May, 2013 and July, 2014, forty-one patients undergoing head and neck reconstruction, including 18 posteromedial thigh profunda artery perforator flaps and 23 anterolateral thigh perforator flaps were included in this study. Thirty-eight were men, and the patient age ranged from 32 to 76 years (mean, 54.5 years).

RESULTS: The success rate was 100 percent. The mean perforator numbers were significantly higher in the profunda artery perforator flap group (2.0 versus 1.5). There was no significant difference in flap elevation time (66.3 versus 60.7 minutes), pedicle length (9.8 versus 10 cm), flap area (166.1 versus 156.8 cm²), flap width (7.7 versus 7.7 cm), re-exploration rate (11.1 versus 4.3 percent), recipient-site complication rate (11.1 versus 4.3 percent), or donor-site complication rate (5.6 versus 4.3 percent) (Table 1). Based on patient-self assessment, the profunda artery perforator flap group had a significantly better donor-site cosmesis than the anterolateral thigh perforator flap group (Table 2).

CONCLUSIONS: The posteromedial thigh profunda artery perforator flap is a good alternative for head and neck reconstruction. It offers comparable flap size, pedicle length, flap elevation time, and success rate as the anterolateral thigh perforator flap. It is advantageous in having higher perforator numbers and better donor-site cosmesis than the anterolateral thigh perforator flap.

FIGURE LEGENDS

Table 1. Flap Characteristics of 41 Consecutive Patients Who Underwent Head and Neck Reconstruction Using Posteromedial Thigh Profunda Artery Perforator Flaps or Anterolateral Thigh Perforator Flaps

Table 2. Subjective Assessment of Donor-site Appearance and Ability to Hide the Scar

TABLE 1

	Types of Flap		<i>p</i> *
	PAP (n = 18)	ALT (n = 23)	
Flap elevation time, minutes			
Mean	66.3	60.7	0.0925
Range	50-90	40-90	
Flap width, cm			
Mean	7.7	7.7	0.9684
Range	6-9	6-10	
Flap size, cm ²			
Mean	166.1	156.8	0.5990
Range	90-243	42-225	
Perforator numbers			
Mean	2.0	1.5	0.0176
Range	1-3	1-3	
Vascular pedicle length, cm			
Mean	9.8	10	0.9684
Range	8-13	7-15	
Ischemia time, minutes			
Mean	135	146.3	0.7327
Range	52-230	79-297	
Donor-site skin grafting rate	0%	13% (3)	0.2427 [†]
(numbers)			

PAP, posteromedial thigh profunda artery perforator flap; ALT, anterolateral thigh perforator flap

*Mann-Whitney *U* test

[†]Two-sided Fisher's exact test

TABLE 2[†]

	Types of Flap	
	PAP (n = 18)	ALT (n = 23)
Excellent	77.8% (14)	21.7% (5)
Good	22.2% (4)	47.8% (11)
Fair	0	21.7% (5)
Poor	0	8.7% (2)

PAP, posteromedial thigh profunda artery perforator flap; ALT, anterolateral thigh perforator flap

[†]The difference in satisfaction rate is statistically significant (two-sided Fisher's exact test, $p = 0.0123$)