

Obturator Artery Perforator Propeller Flap for Scrotal and Vulvar Reconstruction

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INTRODUCTION: The perforator of the anterior branch of the obturator artery is located at the uppermost gracilis territory. The perforator flap based on this vessel is thin and pliable, offering a good solution for loco-regional defects.(1) In this study, we investigated the perforator topography of the anterior branch of obturator artery and propose a new flap, the obturator artery perforator propeller flap, for vulvar, vaginal or scrotal reconstruction.

MATERIALS AND METHODS: Identification and evaluation of the perforator at the uppermost gracilis territory was conducted during elevation of the gracilis flap, the obturator artery perforator flap or the profunda femoris artery perforator flap. Between January of 2011 and May of 2014, thirty-two thighs in 26 patients were evaluated. The distance of the obturator artery perforator from the ischiopubic ramus and the perforator types (musculocutaneous versus septocutaneous) were recorded. Among these, eleven patients underwent perineal reconstruction with the propeller obturator artery perforator flap(s), including a scrotal reconstruction and 10 vulvar/vaginal reconstructions. Patient age ranged from 22 to 85 years (mean, 66.1 years).

RESULTS: A single perforator from the anterior branch of obturator artery was found at the uppermost gracilis territory in all 32 thighs. The perforator was located at a mean of 1.1 cm (range 0.8 to 1.4 cm) lateral to the ischiopubic ramus; it was septocutaneous in 3 thighs (9.4%) and musculocutaneous in 29 thighs (90.6%). In 11 patients that underwent perineal reconstruction, seventeen obturator artery propeller perforator flaps were elevated. The flap area ranged from 4x7 cm² to 7x21 cm². The donor sites were primarily closed in all cases. Arc of flap rotation ranged from 90 to 180 degrees. All flaps survived completely. At a mean follow-up time of 5.1 months (range 3 to 10 months), all patients achieved normal daily activity with good functional outcomes.

CONCLUSION: The perforator of the anterior branch of the obturator artery is constantly present at the uppermost gracilis territory. The propeller obturator artery perforator flap is a versatile and reliable option for vulvar, vaginal or scrotal reconstruction.

REFERENCES

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