



Fig. 2. Photograph obtained before repositioning of the supraorbital bar. The distal portion (arrowhead) served for watertight closure of the dura to prevent cerebrospinal fluid leakage, and the proximal portion (arrow) was used as a barrier between the nasopharynx and the intracranial component (white arrow indicates the bone graft).

resection accompanied by sight-threatening orbital eversion, it can be successfully used over the ceiling of the nasal cavity between the skeletally reconstructed medial orbits. Except for anosmia, resection of the intranasal structure, including the paranasal sinuses and orbital walls, and reconstruction can be achieved successfully from both functional and aesthetic viewpoints. We propose the composite galeal frontalis pericranial flap described here as an alternative strategy for reconstruction in minimally invasive anterior cranial base surgery.

DOI: 10.1097/PRS.0b013e31817d5ea9

Hiroki Yano, M.D.

Noriyuki Sakihama, M.D.

Takayuki Matsuo, M.D.

Motoi Nakano, M.D.

Akiyoshi Hirano, M.D.

Department of Plastic and Reconstructive Surgery,
Department of Otorhinolaryngology, and Department of
Neurosurgery
Nagasaki University School of Medicine
Nagasaki, Japan

Correspondence to Dr. Yano
Department of Plastic and Reconstructive Surgery
Nagasaki University School of Medicine
1-7-1 Sakamoto
Nagasaki 852-8501, Japan
h-yano@net.nagasaki-u.ac.jp

REFERENCES

1. Hendryk, S., Czeior, E., Misiolek, M., Namysłowski, G., and Mrowka, R. Surgical strategies in the removal of malignant tumors and benign lesions of the anterior skull base. *Neurosurg. Rev.* 27: 205, 2004.

2. Kraus, D. H., Shah, J. P., Arbit, E., Galicich, J. H., and Strong, E. W. Complications of craniofacial resection for tumors involving the anterior skull base. *Head Neck* 16: 307, 1994.
3. Potparic, Z., Fukuta, K., Colen, L. B., Jackson, I. T., and Carraway, J. H. Galeo-pericranial flaps in the forehead: A study of blood supply and volumes. *Br. J. Plast. Surg.* 49: 519, 1996.
4. Sekhar, L. N. Comments. *Neurosurgery* 57 (Suppl. 1): 16, 2005.

Preoperative Planning of the Abdominal Perforator Flap with Multidetector Row Computed Tomography: 3 Years of Experience

Sir:

The first option in breast reconstruction with autologous tissue is currently the abdominal perforator flap. The microvascular anatomy of the abdominal wall varies greatly. The location, number, caliber, and intramuscular trajectory of perforator branches of the deep inferior epigastric artery differ not only from one individual to another but also from one hemiabdomen to the other. A presurgically established vascular map can facilitate surgical planning in each patient.¹ Over the past 3 years in our hospital, we have routinely used the multidetector scanner for the preoperative study of deep inferior epigastric perforator type abdominal flaps in breast reconstruction.

Protocol Image Analysis

Step 1

First, on the axial view, the deep inferior epigastric artery was evaluated along its entire length from its origin, paying special attention to the intramuscular or retromuscular course. Second, we studied the perforator arteries that are dependent on the deep inferior epigastric artery. Their caliber, course, and anatomical relationships were evaluated, locating the exact point of emergence through the aponeurosis of the abdominal rectus (Fig. 1).

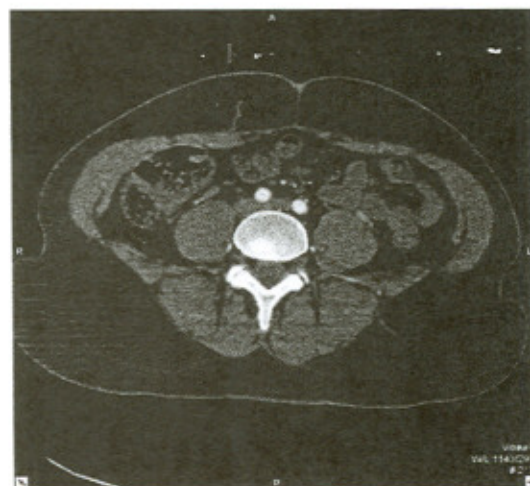


Fig. 1. Axial view. The dominant perforator piercing the fascia is marked with an arrow.

The criteria for choosing perforators include the following¹⁻³:

1. *Caliber.* The largest caliber, proportional to the blood flow; 0.6 to 3.2 mm was established as the useful range diameter.
2. *Location.* We chose a perforator that allowed a flap design enabling a direct and aesthetic closure. This was preferably centered in the tissue to be transferred, although this was not indispensable.
3. *Anatomical relationships.* We selected a perforator whose course facilitated dissection. A direct branch from the deep inferior epigastric artery was preferred because it was expected that the intramuscular course would be shorter, with fewer muscular branches. We also took into account whether the perforator vessel emerged from a tendinous band, as this type of perforator usually follows a retromuscular course that makes its dissection easier.

Step 2

We performed a three-dimensional reconstruction of the abdominal skin surface. According to a coordinate system whose center is the umbilicus, we associated each perforator with a coordinate point. Using this simple coordinate system, the perforator map was transferred to the data registration sheet before transfer to the patient's skin surface (Fig. 2).

Our present results show that multidetector-row computed tomography is a highly reliable tool for identifying and locating the dominant abdominal perforator, with a positive predictive value of 100 percent. The ability of multidetector-row computed tomography to preoperatively detect the dominant perforator vessel leads to a significant saving in harvesting time—almost halved in our series—and a significant drop in postoperative complications, mainly those associated with partial necrosis of the flap and fat necrosis. Because the only new parameter introduced in our working method is multidetector-row computed tomography, it is logical to think that this improvement may be the result

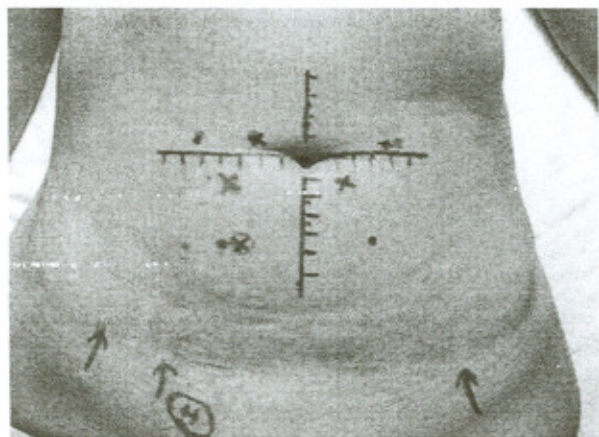


Fig. 2. Skin marking.

of choosing—with the help of multidetector-row computed tomography—the best abdominal perforator vessel for each flap, bearing in mind not only its caliber but also its course and anatomical relationships.

DOI: 10.1097/PRS.0b013e31817d5eea

Jaume Masia, M.D., Ph.D.

Plastic Surgery Department
Hospital de la Santa Creu i Sant Pau
Universitat Autònoma de Barcelona

Juan Angel Clavero, M.D.

Radiology Department
Clínica Creu Blanca

Jose Larranaga, M.D.

Lorena Vives, M.D.

Gemma Pons, M.D.

Plastic Surgery Department
Hospital de la Santa Creu i Sant Pau
Universitat Autònoma de Barcelona
Barcelona, Spain

Correspondence to Dr. Masia
Sant Antoni M. Claret 167
08025 Barcelona, Spain
jmasia@santpau.es

The preliminary results of this study were presented at the 10th International Course of Perforator Flaps, in Ankara, Turkey, on September 6, 2006; and the Third Meeting of the World Society of Reconstructive Microsurgery, in Buenos Aires, Argentina, October 21 through 22, 2005.

DISCLOSURES

None of the authors has any commercial associations or financial disclosures that might pose or create a conflict of interest with information presented in this article.

REFERENCES

1. Giunta, R. E., Geisweid, A., and Feller, A. M. The value of preoperative Doppler sonography for planning free perforator flaps. *Plast. Reconstr. Surg.* 105: 2381, 2000.
2. Voet, D. V. A. M., Petrovic, M., Masia, J., et al. Preoperative planning. In P. N. Blondeel, S. F. Morris, G. G. Hallock, and P. C. Neligan (Eds.), *Perforator Flaps: Anatomy, Technique and Clinical Applications*. St. Louis: Quality Medical, 2006.
3. Masia, J., Clavero, J. A., Larranaga, J. R., et al. Multidetector-row computed tomography in the planning of abdominal perforator flaps. *J. Plast. Reconstr. Aesthetic Surg.* 59: 594, 2006.

Hidradenitis Suppurativa Sternalis: Surgical Treatment of This "No-Touch Zone." A 10-Year Follow-Up

Sir:

Hidradenitis suppurativa is a chronic, socially debilitating disease of apocrine gland-bearing skin with a predilection for intertriginous areas. Our interest focused on hidradenitis suppurativa sternalis. The cause is still not completely known, but medical treat-