

ROM Flap Successful for Medium-Sized Defects

BY DOUG BRUNK
San Diego Bureau

SANTA ANA PUEBLO, N.M. — The reducing opposed multilobed flap repair offers significant advantages over traditional closure methods for medium-size skin cancer defects below the knee, especially with respect to flap necrosis and overall complications, Dr. Anthony J. Dixon said at a meeting of the American Society for Mohs Surgery.

The reducing opposed multilobed (ROM) technique, which Dr. Dixon developed and first described a few years ago, uses a random-pattern skin flap for defects below the knee that are 10-45 mm in diameter (*Dermatol. Surg.* 2004;30:1406-11). The pattern consists of semicircular lobes that extend both cephalically and caudally from the defect. The largest semicircle is two-thirds of the diameter of the primary defect.

"The next semicircle is two-thirds the diameter of the first semicircle and so on," said Dr. Dixon, a dermatologic surgeon who practices in Belmont, Australia. "You keep making semicircles until you have semicircles 5-8 mm in diameter; then you stop."

The number of semicircles depends on the depth of the primary lesion. "It's quite common to have three semicircles on each side [of the defect]," he said.

The technique involves transposing each semicircular lobe with standard sutures, starting from the lobes most distant from the defect and working inward.

"Throughout the technique you know that tension is being accumulated along the way," said Dr. Dixon, who also is director of research for Skin Alert Skin Cancer Clinics, a network of 13 clinics in Australia. "Rather than tension being in the central defect, tension is being accumu-

lated at the periphery. Therefore, it should result in less wound tension and breakdown centrally."

Postoperatively, Dr. Dixon advises his patients to minimize walking for 24 hours and then slowly increase the amount of walking. "We ask them when they are seated to elevate their leg when they can for the first 4 days," he added.

He takes every alternate suture out in 2 weeks and the rest at 3 weeks. At 6 months, scarring from the procedure "is invariably difficult to find," he said.

In an unpublished analysis, Dr. Dixon and his associates compared 212 patients who underwent ROM flap repairs with 83 patients who underwent repair with ellipse or with other random flap patterns. The diameter of the defect size in all patients ranged from 11 to 45 mm.

The rate of partial flap necrosis was 0.9% in the ROM flap group, compared with 7.2% in the non-ROM flap group, a difference that was statistically significant. The overall rate of complications was 12.7% in the ROM flap group, compared with 28.9% in the non-ROM flap group, a difference that also was statistically significant, he reported.

There were no statistically significant differences between the two groups in terms of the rates of postoperative infections and wound dehiscence, although the rates were smaller in the ROM flap group than in the non-ROM flap group.

The patients "generally liked" the ROM flap procedure. "They liked being able to get up and walk around," Dr. Dixon said.

The study had several limitations: It was not randomized, it was a consecutive series of patients, and all the procedures were performed by Dr. Dixon. "A prospective, randomized controlled trial would be valuable to confirm the findings of this retrospective study," he said. ■



The reducing opposed multilobed (ROM) flap repair is used for defects below the knee.



Semicircular lobes extend cephalically and caudally from the defect. The largest semicircle is two-thirds of the diameter of the primary defect.



Each of the lobes is transposed with standard sutures, starting from the lobes most distant from the defect and from working inward.



Suturing is finished. Every alternate suture will be taken out in 2 weeks, and the rest at 3 weeks.

PHOTOS COURTESY DR. ANTHONY J. DIXON

Creative Muscular Flaps Fill in Deep Mohs Facial Defects

BY JEFF EVANS
Senior Writer

NAPLES, FLA. — Muscular flaps that supply soft tissue volume and a good vascular supply can provide some of the best cosmetic results in the reconstruction of Mohs surgery facial defects that penetrate to bone or cartilage, speakers said at the annual meeting of the American College of Mohs Surgery.

► **Muscular hinge flaps.** These flaps are useful for replacing soft-tissue volume in deep defects that may extend to bone or cartilage and require coverage with a full-thickness skin graft for practical or functional reasons, said Dr. Neil J. Mortimer, a Mohs surgery fellow at the Skin Centre in Tauranga, New Zealand.

"These are generally defects where you'd want to choose a full-thickness skin graft repair over other reconstructive op-

tions," Dr. Mortimer pointed out.

Since reconstruction of the vermilion of the lower lip with a simple mucosal flap would leave a substantial loss of volume, Dr. Mortimer recommended the use of orbicularis oris hinge flaps. A flap from the underlying orbicularis muscle is dissected out laterally and is then turned back or hinged into the defect.

"We've found from experience that if the surgical defect is deeper than a millimeter or so, it's useful to dissect these flaps from both sides and overlap them in the defect," Dr. Mortimer said.

Deep defects on the nose can be reconstructed with flaps derived from the superficial nasalis musculoaponeurotic system without causing a functional compromise. The flap can be dissected by separating it from its superior and inferior attachments to work as a simple hinge. These flaps can be unilateral or bilateral.

Frontalis hinge flaps can resurface exposed bone on the forehead. Postauricular defects with exposed partial-thickness cartilage can be repaired with an auricular posterior hinge flap, which carries a good vascular supply from the auricular branch of the posterior auricular artery, he said.

► **Galeal hinge flap.** "This is a reconstruction that we found particularly useful for repairing defects of the scalp, extending to bone, as a single-stage procedure," said Dr. Matthew Halpern, a fellow in procedural dermatology at Columbia University, New York.

The galea aponeurotica is a strong, inelastic fibrous sheath situated between subcutaneous and loose areolar tissue that covers the calvaria and represents the tendinous connection between the frontalis muscle anteriorly and the occipitalis muscle posteriorly.

In constructing the flap, the galea is lightly scored so that it can be advanced and hinged over the top of the exposed periosteum. A galeal hinge flap is different from a muscular hinge flap because the galea is relatively inelastic, so defects often require bilateral flaps for coverage of the exposed bone. The galea also is thin and will not make an overall change in wound depth.

Dr. Halpern places full-thickness skin grafts on top of the galeal hinge flap to close the rest of the wound. He uses local anesthesia for the whole procedure.

► **Nasalis myocutaneous island pedicle flap.** This flap can be used to repair defects that cover two anatomic units on the nose—the ala and sidewall—with the alar groove as an anatomic boundary line. It can be used in place of a full-thickness skin graft, an island pedicle flap from the side, or a medially based

cheek-to-nose transposition flap, said Dr. Robert J. Willard, a Mohs surgery fellow at Brown University, Providence, R.I.

The flap is made superior to the defect, with wide undermining to provide mobility and avoid pin cushioning. The first key sutures are made by stitching the lateral and medial aspects of the leading edge of the flap anteriorly and posteriorly to the origin of the alar groove. The leading edge of the flap is aligned with the alar groove, which recreates the anatomic boundary. No sutures are placed at the inferior portion of the defect since this would create a vertical tension vector and risk alar elevation.

Placement of a guiding suture roughly parallel to the alar rim in the residual alar portion redirects the tension vector to avoid alar elevation while the residual alar defect heals by second intention, he said. ■