

Plate 34

Single Pedicle Advancement Flap

DESCRIPTION

The single pedicle advancement flap is the simplest of the local flaps by design. Flap width equals the width of the defect; flap length is dictated by the amount required to stretch and advance the flap into the defect without excessive tension.

SURGICAL TECHNIQUE

- (A) The skin is gently grasped to assess regional skin tension. The index finger is used to push the skin toward the center of the defect to determine final flap orientation.
- (B) Two slightly *diverging* skin incisions are made equal to the width of the defect in a staged fashion. The flap is carefully undermined and the skin progressively incised until the flap is sufficiently mobile to stretch over the defect.
- (C) The flap is sutured into position to complete the transfer. Half-buried horizontal mattress sutures are placed in the corners of the flap to minimize circulatory compromise to the flap corners.
- (D) An alternate technique is to use two single pedicle advancement flaps on each side of the wound. This technique is called H-plasty based on the resulting H-shaped closure achieved.

COMMENTS

Although the single pedicle advancement flap is a simple flap technique to master, it has significant limitations dictated by the availability of loose elastic skin immediately adjacent to the defect. The single pedicle advancement flap does not bring additional "loose" skin to the wound site; successful closure requires the flap to stretch over the defect. There is a tendency for the advancement flap to retract due to the inherent elastic nature of the skin. This must be anticipated before it is used in areas where postoperative tension can distort neighboring structures (e.g., eyelid). Because the flap is supplied by the subdermal plexus, flap length should be kept to a minimum. H-plasty, using two shorter advancement flaps may be advisable to avoid closure with a single, long advancement flap. A disadvantage of H-plasty is the greater amount of suturing required and the formation of two "incisional intersects," which are more prone to dehiscence.

Although the use of Burow's triangles has been advocated to prevent dog-ear formation and to improve flap mobility, they are rarely required to prevent dog-ears or puckers and are minimally effective in relieving tension. Only flaps created with the thicker, less-elastic skin of the neck and back in the dog are likely to benefit most from their use in minimizing dog-ears. Even then, most dog-ears flatten in time without surgical removal.

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