Galeatomy: A useful technique aiding high-tension scalp closures

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SURGICAL CHALLENGE

The galea aponeurotica is a rigid, nonelastic, fibrous sheet of connective tissue on the scalp and forehead. Large defects are difficult to repair because of the tough nature of the galea, which inhibits tissue movement. There are surgical techniques such as undermining or maneuvers with suture placement that can help approximate the skin together; however, these techniques may increase bleeding risk and produce a high-tension closure.

SOLUTION

A galeatomy is a relaxing incision of the galea that lengthens scalp movement and decreases tension on wound margins. This allows for large linear closures on the scalp and forehead, avoiding the need for flaps or grafts. When used for flaps, a single 1-cm galeatomy can produce a mean lengthening gain measuring 1.67 mm.[1]

When repairing the scalp, the surgeon undermines the surrounding tissue at the subgaleal plane. Edges are approximated together with surgical hooks or manual pressure (Fig 1, *A*). If the wound edges do not come together comfortably, closing the wound will be under high tension. Scalp tissue is lifted until the galea is seen. Perpendicular to the direction of desired movement and parallel to the wound edge, an incision is made through the galea 2 cm to 3 cm lateral to the incision (Fig 1, *B*). This allows the cut tissue to gape and facilitates tissue

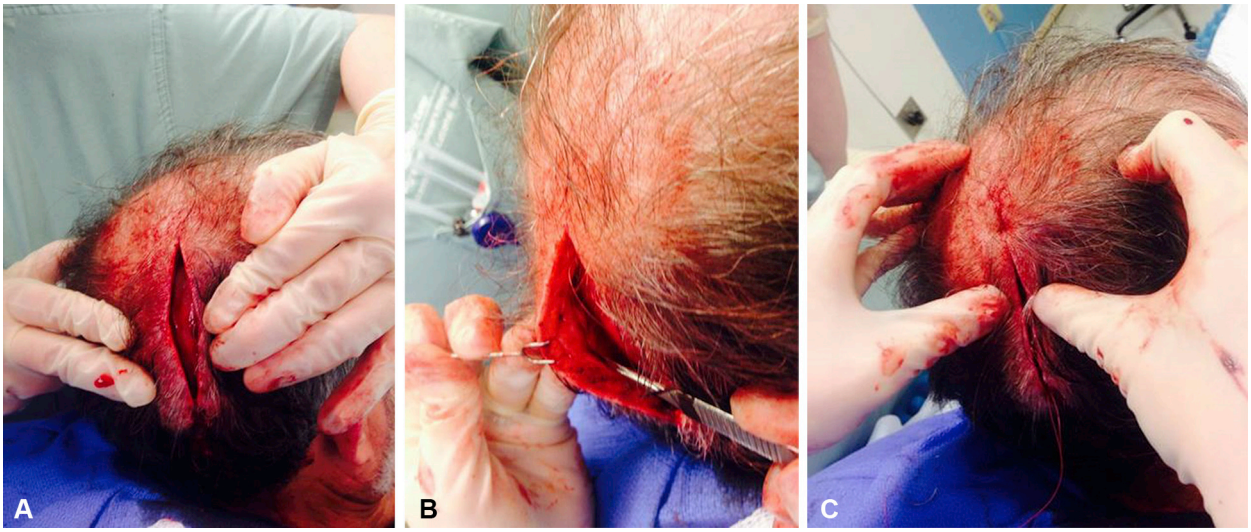

Fig 1. Galeatomy. **A**, After local undermining, the tissue is approximated manually, and the defect is not easily closed. **B**, The edge of the wound is lifted with a surgical hook and a single incision is made through the galea along the length of the wound. **C**, Postgaleatomy, the wound edges are brought together with ease.

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expansion (Fig 1, *C*). If the defect is still under high tension, additional galeatomies can be performed farther from the edge of the wound. Each galeatomy produces 1 mm to 3 mm of tissue movement. Once high tension is relieved, the scalp defect can be repaired as desired.

REFERENCE

1. Raposio E, Santi P, Nordstrom RE. Effects of galeotomies on scalp flaps. *Ann Plast Surg*. 1998;41:17-21.