

Complications in Brow Lift Techniques: A Systematic Review

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OBJECTIVE: The objective of this study is to systematically review the available literature, to determine the complication rates for a variety of techniques in surgical brow elevation.

METHODS: The databases: MEDLINE, EMBASE, CINAHL, LILACS, Web of Science, Cochrane Libraries, controlled-trials.com and clinicaltrials.gov, were searched using the terms: "Brow" OR "Forehead", AND "Surgery". A total of 7920 articles were assessed by two independent reviewers. After deleting the duplicates and reviewing the abstract and full-text, 80 case-series reporting complications on endoscopic or open brow lift techniques were included. Assuming between-study heterogeneity due to the limitations and biases inherent to the case-series, a random effects model (DerSimonian-Laird method) was used for calculation of weighted proportions (StatsDirect software). Weighted proportions with 95% confidence intervals were reported.

RESULTS: Regardless of the approach, both open and endoscopic procedures are associated with a range of complications. Scar revision and paresthesia are the most commonly reported complications across techniques, with anterior hairline, coronal and endoscopic approaches being the most commonly reported techniques in the literature. Anterior hairline incision with subcutaneous dissection reports alopecia (8.5%), paresthesia (5.4%), scar revision (2.1%) and skin necrosis (1.8%). Coronal incision with subperiosteal dissection is associated with nerve injury (6.4%), scar revision (2.5%) and hematoma (1.0%). Endoscopic techniques with subperiosteal dissection have the highest number of complications overall, with asymmetry (3.6%), lagophthalmos (2.7%) and recurrence (2.4%) occurring amongst other complications.

CONCLUSIONS: The literature on aesthetic brow elevation demonstrates that complication rates vary depending on the incision site and plane of dissection. Patients should be informed of the complications that can occur in the various types of cosmetic brow lift techniques. The findings should be interpreted with caution due to the limitations inherent to case-series. A well-designed comparative study is needed to evaluate the complications of surgical brow lift techniques.

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