Management and Outcomes of Facial Paralysis from Intratemporal Blunt Trauma: A Systematic Review

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Abstract

Objective: To systematically review the existing literature on outcomes and management of facial paralysis resulting from intratemporal blunt trauma.

Study Design: Systematic review of the literature.

Methods: A systematic literature review identified twenty-eight articles meeting our inclusion criteria. Outcome variables analyzed included severity of paralysis, time of onset of paralysis, surgical or non-surgical management, steroid use, and final facial nerve function.

Results: The majority of the studies were classified as level 4 evidence as defined by the Oxford Centre for Evidence-Based Medicine. There was marked variation in the quality of the studies with inconsistent outcome measures, diagnostic testing, and follow-up, thus ruling out a formal meta-analysis. In an exploratory pooling of data, 612 cases had sufficient follow-up and facial movement grading for some evaluation of outcome. Of the remaining 25 reports were retrospective. Three articles reported on a pediatric population with a total of eleven cases of traumatic facial paralysis for which outcome data were available. A total of 612 cases of facial weakness in 606 patients (6 bilateral injuries) were available for analyses. A meta-analysis was not able to be performed due to the heterogeneity of the studies analyzed. Study data was pooled without statistical analysis to identify trends in outcomes. Individual results are shown in graphic form in Figure 2A-D.

Discussion

Our data indicate that 66% of observed patients recover full facial function regardless of initial facial paresis status – complete, partial, immediate or delayed. This is similar to the overall full recovery rate of patients receiving steroids (67%), but exceeds the rate of HB I outcomes in operated patients (23%).

If complete facial paralysis is noted at any time during the clinical course, the full recovery rate drops slightly to 57% for the observed group. This outcome is compared to a 21% rate of full recovery for patients undergoing surgical intervention.

We identified immediate paralysis as having the highest percentage of mediocre and poor outcomes regardless of management strategy. As expected, patients with delayed paralysis had better outcomes; observed patients had frequent HB I outcomes (80%) which far exceeded the full recovery rate in surgical patients (30%).

Our subgroup analyses suggest that surgical intervention did not appear to improve upon the natural course of immediate or complete paralysis. These results suggest that the role of surgery in the management of traumatic facial paralysis may be limited.

Selected References

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