Facial Fractures As a Result of Falls in the Elderly: Concomitant Injuries and Management Strategies

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INTRODUCTION: Mechanical falls are a common cause of facial trauma in the elderly. It has been shown that the likelihood of sustaining a facial fracture due to a fall increases with age following infancy. While craniomaxillofacial fractures are most common during the first three decades of life, elderly patients more frequently require lengthy hospital stays and have shown increased surgical complication rates when compared to younger patients. The goal of this study was to examine facial fractures secondary to mechanical falls in the elderly in order to analyze mechanism of injury, comorbidities, and fracture management.

METHODS: A retrospective review of all facial fractures as a result of falls in the elderly population in a level I trauma center in an urban environment was performed for the years 2002 to 2012. Patient demographics were collected, as well as location of fractures, concomitant injuries, and surgical management strategies.

RESULTS: During the time period examined, 139 patients greater than 60 years of age that sustained a fracture of the facial skeleton as the result of a fall were identified. The average age was 75.7, with no gender predominance. There were a total of 205 fractures recorded. The most common fractures were those of the orbit (42.0%), nasal bone (23.4%), zygoma (13.2%), and zygomaticomaxillary complex (7.32%). The average Glasgow Coma Scale on arrival was 12.8. Uncontrolled hemorrhage was noted on presentation in 5 patients. Twenty-one patients were intubated on, or prior to, arrival and 44 required a surgical airway. The most common concomitant injury was long bone fracture (23.5%), followed by cervical spine fracture (18.5%), skull fracture (17.3%), intracerebral hemorrhage (17.3%), and rib fracture (17.3%). Of the 114 patients admitted to the hospital, 53 were admitted to an intensive care setting. The average length of stay was 8.97 days. Sixteen patients expired. Surgical management of fractures was required in 47 of the 139 patients.

CONCLUSION: Facial fractures as a result of falls in the geriatric population represent an increasing number of cases in clinical practice as life expectancy steadily rises. These patients require a specific standard of treatment since they are more susceptible to nosocomial infections, as well as have higher complication rates and longer recovery time. Concomitant injuries such as cervical spine and pelvic fractures can greatly increase risk of mortality.

Peroneal Flap – A Boneless Version of Fibula Flap, an Equivalent of Radial Forearm Flap in the Lower Extremities, and a Feasible Alternative for Head and Neck Reconstruction

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INTRODUCTION: The current mainstream options for soft tissue defects in head and neck reconstruction are radial forearm flap and ALT flap. However, ALT flap could be too bulky in obese patients, and the harvest of radial forearm flap...
flap could leave poorly-hidden scar on the forearm and sometimes cause cold intolerance over the hand. In our institution, peroneal flap has been the workhorse flap for the soft tissue defect in head and neck reconstruction. The goal of this study is to present the peroneal flap as a feasible option for head and neck reconstruction.

METHODS: With the same perforator anatomy of fibula flap and slight modification of harvest technique of fibula flap, the peroneal flap could be harvested within 1 to 2 hours. Between 1996 and 2015, 246 peroneal flaps and 114 ALT flaps were used in the head and neck reconstruction by the senior author (Dr. Yang). A variety of applications to different types of defects will be demonstrated to show its versatility. We retrospectively reviewed the medical records, looking for all the perioperative complications. The perioperative complication rate of ALT flap was used as a comparison group to validate the viability of the peroneal flap. Stata 9.1 software (StataCorp, Inc., Texas, USA) was used for statistical analysis. Fisher’s exact test was conducted to compare the two groups. A p value less than 0.05 was considered statistically significant.

RESULTS: Compared to radial forearm flap, none of our patients after peroneal flap harvest complained about cold intolerance over the foot, and skin grafted flap donor sites were shifted to less noticeable lower legs. Compared to ALT flap, because peroneal flap was thinner and more pliable, in some conditions, it was more suitable for head and neck reconstruction. For example, an aesthetically pleasing and saliva-leakage preventing neo-commissure could be easily created. Statistically speaking, in our series, there is no difference between ALT and peroneal flap in terms of perioperative complications rates (p = 0.18).

CONCLUSION: Due to its easy learning curve, better-hidden scar than radial forearm flap, thinner skin paddle than ALT flap, and comparable complication rates with ALT flap, peroneal flap should be considered a feasible option for the head and neck reconstruction.

Reference Citations:
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