Open Reduction of Malar Fractures Is Associated with Improved Resource Utilization

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INTRODUCTION: Malar and zygoma fractures are managed in several ways depending on the preferences of the surgeon, degree and nature of the injury, presence of associated injuries, and comorbidities. Current literature advocates open reduction with plating versus closed techniques, but data is lacking regarding costs and complications comparing the two approaches.

METHODS: National Inpatient Sample (2006-2011) was searched for patients undergoing closed or open (76.71-76.72) reduction of maxillary fractures. Treatment-related complications were regarded as reopening of surgical site, hemorrhage, hematoma, seroma, wound infection, and dehiscence.

RESULTS: Overall, 28,860 cases were identified. There were 27,841 closed and 1,019 open procedures. Median age was 37 (interquartile range 26). Length of stay (LOS) was 3 (5) days. Total charges (TC) were reported as 44371.40 USD (56,480.31). Males comprised 80% of the cohort. 33% of patients were in the lowest income quartile (p= 0.12). 64% of patients were Caucasian. Private payer/HMO accounted for the largest source of health care coverage (39%). On risk-adjusted multivariate analysis, there was no difference in surgical approach regarding incidence of postoperative complications. Males (3.47), Medicaid (2.30), income in the 3rd quartile (2.54), Northeast (3.12) and South region (10.06), and transferred patients (3.71) had more complications. Presence of chronic pulmonary disease (8.76) and cardiac arrhythmia (6.37) also increased risk of complications. LOS was not affected by surgical approach. Total charges were less for open approach (0.53).

CONCLUSIONS: While surgical approach did not affect complications or length of stay, open approach favorably affected total charges. Future studies should focus on comorbidities, demographics, and associated injuries in relation to resource utilization for maxillary fractures.