

Formal Synopsis
Session Title: Posters

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Cost Analysis of Face Transplantation

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Introduction

Patients with large facial defects have traditionally been treated with autologous reconstruction, requiring multi-staged procedures. Face transplantation is an emerging treatment modality for these defects using allografts and immunosuppression. This study analyzes the cost of face transplantation in comparison to conventional reconstruction.

Methods

Patients with conventional facial reconstruction procedures or face transplantation performed at a single institution between 2000 and 2010 were reviewed. Primary outcomes included peri-procedural, one-year, and two-year total costs, with secondary analysis for cost drivers. Because traditional reconstruction patients had smaller facial defects compared to transplant patients, a generalized linear regression model was created to estimate reconstruction costs for a hypothetical patient with defects equivalent to the transplant patients.

Results

Among the 2034 face reconstruction patients examined, 72 were eligible for inclusion in the conventional reconstruction group and three were included in the transplantation group. Total one-year costs for the transplant group were significantly higher than the conventional reconstruction group at one year (mean \$246,052, median \$217,475 vs. mean \$69,848, median \$63,449, $P<0.0001$) and two years (mean \$282,052, median \$253,475 vs. mean \$86,743, median \$63,449, $P<0.0001$), with adjustment for inflation.

Costs in both groups were highest in the first month. (Figure 1) Among reconstruction patients, higher costs were associated with reconstruction of the mandible region ($p=0.0028$), private insurance ($P=0.0039$), hypertension ($P=0.0168$), and post-operative complications ($P=0.0238$). One-year costs for a hypothetical patient with conventional reconstruction of all facial subunits (as is done in face transplantation) was \$207,158 (95% confidence interval, \$71,367-\$342,949). (Figure 2)

Conclusions

Initial comparisons between face transplantation and conventional face reconstruction show that face transplantation is significantly more costly. However, the costs are more comparable when adjusted for the amount of tissue coverage. Further refinements in operative technique and post-operative care may reduce costs in the emerging procedure of face transplantation.

Figure 1

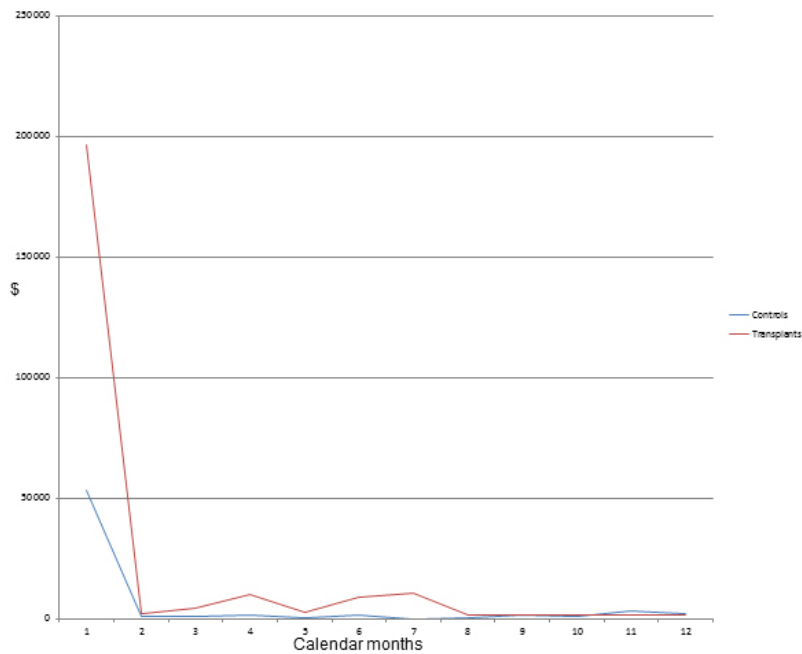
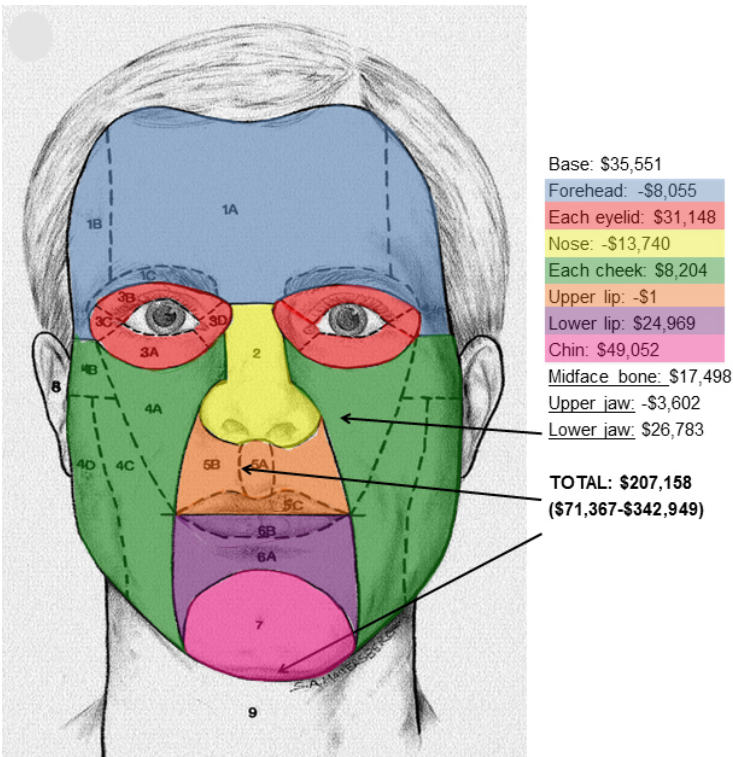


Figure 2



References

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5. Fattahi, T. An overview of facial aesthetic units. J Oral Maxillofac Surg. 61:1207-1211, 2003