FURLOW VERSUS STRAIGHT LINE REPAIR WITH INTRAVELAR VELOPLASTY: A 7-YEAR SINGLE INSTITUTION EXPERIENCE WITH FISTULA FORMATION

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Background: Although fistula formation after primary palatoplasty can be used as a metric of the procedure's success, there is little consensus over which factors affect the development of this complication. The aim of this study is to characterize how the rate of fistula formation varies at our institution based on palatoplasty technique, Veau cleft classification, adoption status, and other potential risk factors.

Materials/Methods: Retrospective chart review was performed for patients undergoing a primary palatoplasty via either the Furlow or straight line with intravelar veloplasty (IVVP) technique. Data points collected included age at time of surgery, gender, language, adoption status, syndromic status, presence of moderate and/or bilateral hearing loss, Veau cleft type, and presence of a post-operative fistula. Pearson's Chi-squared test and multivariable t tests were used to analyze variables. Logistic regression was used to control statistically significant variables between study cohorts.

Results: Of the 109 patients included, 34 underwent the Furlow procedure and 75 underwent the straight line procedure with IVVP. There were no significant differences between the two surgical groups except for Veau cleft type ($p=0.024$), which was controlled for. A significant correlation was found between fistula formation and both adoption status ($p=0.008$) and Veau cleft type ($p=0.007$). Only patients with more severe cleft classifications (V3 and V4) formed a post-operative fistula. Post-operative fistulae developed in 9 patients: 1/34 (2.9%) in the Furlow group and 8/75 (10.7%) in the straight line with IVVP group. This difference was not significant ($p=0.423$). Statistical analysis found no significant association between fistula formation and gender, primary language spoken, syndromic status, and hearing loss.

Conclusions: At our institution, the rate of fistula formation is not significantly different between the Furlow and straight line with IVVP palatoplasty techniques. Veau cleft classification and adoption status are more closely associated with the formation of post-operative fistulae.