Furlow versus Straight Line Repair with Intravelar Veloplasty: A 7-Year Single Institution Experience with Fistula Formation

Maryshe S. Zietsman, BS, Michelle G. Roy, MPAP, PA-C, Rami P. Dibbs, BA, Matthew Davis, BS, Edward P. Buchanan, MD, Laura A. Monson, MD

Texas Children’s Hospital, Department of Pediatrics and Plastic Surgery, Baylor College of Medicine

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.
- Previous studies have suggested that in addition to the type of palatoplasty procedure, patient-specific characteristics such as Veau cleft type and adoption status also influence the likelihood of post-operative fistula formation.
- The aim of this study was 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.

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, adoption status, syndromic status, payer status, 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 108 patients included, 34 underwent the Furlow procedure and 74 underwent the straight line procedure with IVVP.
- There were no significant differences between the two surgical groups except for Veau cleft type (p=0.040), which was controlled for.
- Post-operative fistulae developed in 9 patients: 1/34 (2.9%) in the Furlow group and 8/74 (10.8%) in the straight line with IVVP group—this difference was not significant (p=0.169).
- A significant correlation was found between fistula formation and both adoption status (p=0.009) and Veau cleft type (p=0.003).
- Only patients with more severe cleft classifications (V3 and V4) formed a post-operative fistula.
- Statistical analysis found no significant association between fistula formation and gender, payer status, and syndromic status.

DISCUSSION

- This longitudinal, single institution study found that the rate of post-operative fistula formation is not significantly different in patients undergoing Furlow vs straight line with IVVP palatoplasty operations, supporting previous findings.
- Veau cleft classification and adoption status are more closely associated with the formation of post-operative fistulae.

REFERENCES