
Prevention of Airway Obstruction in Pierre Robin Sequence via Obturator Use. J DEAN^{1*}, M BULL¹, D GIVAN¹, R HAVLIK¹, J MINK² (Indiana University and ²University of Kentucky).

Infants with complications of Pierre Robin Sequence are at increased risk of airway obstruction and resultant hypoxia, failure to thrive and cerebral impairment. While oral obturator repositioning of the tongue has been advocated, substantial disagreement with this procedure is present; particularly since no airway obstruction data has been reported. This study's purpose was to compare polysomnogram (sleep study) data prior to and after obturator delivery in Pierre Robin Sequence infants. The obturator is made of acrylic and covers the infant's dentoalveolus and palate, as well as extending posteriorly in a manner as to reapproximate the normal soft palate and uvula morphology. This design essentially prevents the tongue from occluding the patient's palatal cleft. The patients were consecutive admissions between 1998 and 2001 to our hospital because of severe airway obstruction. The Mean Respiratory Disturbance Index (number of apnic and hyponic episodes per hour) for the infants with and without the obturator in place was 21.4 ± 13.3 and 31.0 ± 17.4 , respectively ($p=0.003$, paired t-test). Furthermore, only 8 out of these 22 (36%) patients required surgical intervention compared to a similar population at the same hospital (Bull 1990), but without any obturator use where 9 out of 20 (45%) required surgical intervention. However, the sample size was too small to demonstrate a statistically significant difference. The conclusion of this study is that oral obturator use in Pierre Robin Sequence infants with severe airway obstruction provided a statistically significant improvement in the patients' Mean Respiratory Disturbance Index. These results support the use of obturators in Pierre Robin Sequence infants with severe airway obstruction and suggest the need for further study.