Risk assessment of obstructive sleep apnea in nonsyndromic cleft lip and palate

Patients with cleft lip and palate have an increased prevalence of obstructive sleep apnea (OSA). The aim of this study was to evaluate the risk of obstructive sleep apnea in different types of cleft lip and palate. The null hypothesis was that the risk of OSA is similar in cleft lip, cleft lip and palate, and cleft palate. This study was conducted at the Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo, Bauru, Brazil. The Pediatric Sleep Questionnaire (QPS) was used to investigate the risk of OSA in patients aged 5 to 18 years. During 2020 and 2021, non-syndromic patients with cleft lip and/or palate were investigated. The sample included 231 patients who had complete cleft lip and palate, 99 individuals with cleft lip and rim, and 69 individuals with cleft palate alone. The QPS is a questionnaire with 22 questions about sleep, snoring, daytime sleep, and cognition. A high risk for OSA was considered when 8 or more of the questions were answered positively by parents or legal guardians. The frequency of high risk was compared between cleft types using the Chi-square test. The Chi-square test was used to observe the influence of the independent variables cleft type, sex, and age. The total sample of 399 patients with a mean age of 11.57 years (SD=3.75) had an increased risk of OSA of 42.61%. The most common symptoms reported in this sample were difficulty breathing and inattention. No statistically significant differences in risk for OSA were found between the different cleft types (p=0.381). The risk of OSA was similar between girls and boys (p=0.497) and between children and adolescents (p=0.091). Alveolar bone graft surgery showed no positive association with the risk of OSA. On the other hand, previous orthodontic treatment was associated with a lower frequency of elevated risk of OSA. The null hypothesis was confirmed. The risk of obstructive sleep apnea in the three cleft lip and palate groups was similar and high. The most common symptoms reported in this sample were difficulty breathing and inattention. The presence of previous orthodontic treatment reduced the risk of obstructive sleep apnea among individuals with CLP.

Keywords: Cleft Lip and Palate; Obstructive Sleep Apnea; Pediatric Sleep Questionnaire.