

3D IMAGING OF THE UPPER AIRWAYS OF TREACHER COLLINS SYNDROME SUBJECTS: PRELIMINARY REPORT

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Objective: Treacher Collins Syndrome (TCS), a rare congenital craniofacial syndrome, is characterized by mandibular and zygoma hypoplasia. These craniofacial defects may reduce upper airway dimensions, impair ventilation and lead to obstructive sleep apnea. Considering that narrowing of pharyngeal dimensions may constitute a risk factor for obstructive sleep apnea, this preliminary report aimed at presenting a case series of TCS patients with severe skeletal and airway dysmorphologies. **Methods:** Five adults with TCS who underwent cone beam computed tomography for craniofacial surgery planning, were prospectively assessed. The pharyngeal volume and the minimum pharyngeal cross-sectional area were assessed using the Dolphin Imaging 11.7 software. A control group (n=5) of adults with skeletal class II malocclusion, without syndromes, was also assessed. **Results:** Volume mean values (\pm sd) observed for the TCS group and CON group corresponded to $13.7\pm 6,6$ cm³ and 25.6 ± 9.1 cm³. Minimum pharyngeal cross-sectional area means values (\pm sd) were $56,0\pm 20,2$ mm² and 114.7 ± 35.0 mm². **Conclusion:** In this report, pharyngeal volumes and minimal cross-sectional areas of TCS group were reduced in relation to that of individuals with skeletal class II malocclusion. Reduction of the minimum cross-sectional area in these cases is of special clinical interest. In face of these preliminary findings, it can be speculated that this population may be at a greater risk for obstructive sleep apnea due to the reduced pharyngeal dimensions observed. This is in accordance with the clinical respiratory complaints frequently observed. Further polysomnographic studies are still necessary for assessing respiratory profile and obstructive sleep apnea prevalence in this syndromic population.