

Association of craniofacial morphology, malocclusion and oropharyngeal soft tissues with obstructive sleep apnea (OSA) among Chinese population

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ABSTRACT

Introduction: Craniofacial morphology, malocclusion, and oropharyngeal soft tissues which are closely related to upper airway obstruction can be the risk factors for OSA. This study aimed to investigate the association of craniofacial morphology, malocclusion and oropharyngeal soft tissues with OSA among the Chinese population. **Methods:** 30 Chinese adult OSA patients with Apnea-Hypopnea Index (AHI) score of 5 and above were recruited in the OSA Group and 30 Chinese adults with STOP-Bang Questionnaires (SBQ) score < 3, Epworth Sleepiness Scale (ESS) < 11, and without any OSA signs or symptoms were recruited in Control Group. Clinical assessments were conducted by one calibrated single operator. **Results:** 83.3% of OSA patients were obese. Among these, 63.3% had severe OSA. Mean body mass index (BMI), neck circumference (NC), and systolic blood pressure (BP) were significantly greater in the OSA Group (38.10 kg/m²+8.22; 45.22 cm+5.40; 141.30+16.80) than the Control Group (24.25 kg/m²+5.30; 34.22cm+3.81; 120.40+14.70). Bonferroni Post Hoc test revealed a significant association of OSA with Class II skeletal relationship, retrognathic mandible, decreased Frankfort-mandibular plane angle, increased lower anterior face height, macroglossia, tongue scalloping score 2 and 3, Friedman Tongue Position Class 4, tonsillar enlargement, elongated uvula, and narrowing of lateral pharyngeal wall grade 3 and 4. **Conclusion:** Craniofacial morphology, malocclusion, and oropharyngeal soft tissues associated with OSA were identified, which are useful for identifying patients with high risk of OSA for screening and timely referral for diagnosis and management.