

Class III Malocclusion with Obstructive Sleep Apnea Treated by Orthodontic Treatment Combined with Two-jaw Orthognathic Surgery, A Case Report

1 Ministry of Health and Welfare Pingtung Hospital

2 Kaohsiung Medical University Chung-Ho Memorial Hospital

Tung-Chi Yeh¹, Yu-Chuan Tseng², Yu-Feng Chen²(Corresponding author)

Introduction: Obstructive sleep apnea (OSA) is common in the modern society. Especially in Asian population due to narrow cranial base and flat mid-face structure. Patients with skeletal Class III jaw relation often sought surgical-orthodontic treatment because of esthetic and functional concerns. However, some limitations of orthognathic surgery for these patients due to the correlation to the possibility of postsurgical relapse. We present a case of skeletal Class III jaw relation with anterior cross-bite receiving orthodontic treatment combined with two-jaw orthognathic surgery to achieve normal overbite, overjet, satisfied facial profile, and to improve his sleep quality.

Case Report: A 24-year-old male with allergic rhinitis and bruxism visited the department of orthodontics with chief complaints of snoring at night, mandibular prognathism and anterior crossbite. Moderate degree of OSA was diagnosis with the polysomnography (PSG). The patient was diagnosed Class III jaw relation, hyperdivergent facial pattern, and mandibular prognathism after serial exam. We performed two-jaw surgery with maxillary advancement and mandibular setback, counter-clockwise rotation of maxillomandibular complex, and genioglossus advancement (GGA) combined with pre- and post-surgical orthodontic treatment. In total treatment time of 14 months, the facial profile of the patient presents a significant improvement with the improvement of AHI value.

Discussion:

Isolated maxillary advancement with GGA may compromise one's profile. Isolated mandibular setback with GGA may narrow the pharyngeal airway, jeopardize the condition of OSA. Applying two-jaw surgery, not only improve the patient's profile, but also reduce the amount of mandibular setback.

Conclusion: In patient with skeletal Class III jaw relation with OSA, two-jaw orthognathic surgery combined with orthodontic treatment provide an effective and reliable treatment option in patient who had moderate OSA and mandibular prognathism, by decreasing the amount of mandibular setback.

中文題目：齒顎矯正搭配雙頷正顎手術治療三級異常咬合合併阻塞性睡眠呼吸中止症-個案報告

作者：葉東奇(報告者)^{1,2} 曾于娟² 陳裕豐(通訊作者)³

服務單位：衛福部屏東醫院胸腔內科¹，高雄醫學大學附設中和紀念醫院 齒顎矯正科² 口腔顎面外科³ 睡眠中心³