

Multi-tier pre-surgical evaluation assisted maxillomandibular advancement for obstructive sleep apneic, and a personal experience

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Purpose:

Maxillomandibular advancement (MMA) has been the most effective surgical option in treating obstructive sleep apnea. However, the success rate is not 100%. Chang Gung Craniofacial Center developed a multi-tier pre-surgical evaluation to improve the polysomnographic outcomes of MMA. The study was to evaluate its effectiveness.

Materials and Methods:

Clinical data of 30 patients who received multi-tier pre-surgical evaluation was included. 2D/3D cephalometric values, nasopharyngoscopy, and polysomnographic indices were collected. The 30 patients were grouped into favorable and unfavorable groups according to the evaluation results.

Results:

In average, AHI was improved from $39.9 \pm 25.8/\text{hr}$ to $6.4 \pm 8.1/\text{hr}$. Twelve patients were noted to be unfavorable according to pre-surgical evaluation. Maximal advancement was performed for the 12 patients. Surgical success was equally achieved in both groups. A personal experience of the first author, as a patient, will also be reported.

Conclusions:

Through the multi-tier pre-surgical evaluation, a rational surgical plan could be built and discussed with the patient using 2D/3D cephalometrics, nasopharyngoscopy, and 3D simulations. Successful polysomnographic outcomes could also be achieved in patients with unfavorable conditions.