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G-RM-6

Upper Airway Change after Oral Appliance in Obstructive Sleep Apnoea Patients - Difference Exist in Good and Poor Responders

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Background: Oral appliances (OA) have been shown to have comparative short-term efficacy with that of nasal continuous positive airway pressure (nCPAP). However why OA works better in some patients was not known. We performed this prospective study using computerized tomography (CT) to compare the change in upper airway size after OA treatment in good and poor responders.

Patients and Method: Consecutive patients with mild/moderate OSA (apnoea hypopnoea index AHI 10-45) were recruited and tailor made non-adjustable OA was delivered. PSG and CT of the upper airway were performed at baseline and two months after treatment. Good responders were defined as post treatment AHI ≤ 10 , poor responders as AHI $<$ baseline but > 10 , and non-responders as AHI same or even higher than baseline

Results: 25 patients recruited with baseline body mass index (BMI), Epworth Sleepiness Score (ESS), and AHI 26 ± 3 , 12 ± 4 , and 23 ± 10 respectively. Two months after OA treatment, subjects had stable BMI, but ESS and AHI dropped to 8 ± 5 and 8 ± 9 respectively. 17 were good responders, 7 poor responders and 1 non-responder. Good responders had significantly lower AHI at baseline ($p < 0.05$). By comparing the upper airway size with that of the base line, post treatment hypopharynx cross section area to oropharynx cross section area ratio was significantly decreased. By comparing the CT findings of good, poor, and non-responder, the ratio of hypo- to oropharynx decreased in good responder, mildly decreased in poor responders but increased by more than 2 folds in the non-responder.

Conclusion: The change in hypo- to oropharynx cross section area ratio after OA was associate with the treatment outcome.

G-RM-7

Validation of a Disease-Specific Health-Related Quality of Life Questionnaire for Sleep Apnea: Chinese Version of Calgary Sleep Apnea Quality of Life Index (SAQLI)

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Background: Few disease-specific health-related quality of life (HRQOL) instruments are available to the Chinese patients with sleep apnea to record key elements of the disease that are important to patients, and few from the west have been translated for use with Chinese-speaking patients. The Calgary Sleep Apnea Quality of Life Index (SAQLI) is a well-validated HRQOL instrument that is specific to sleep apnea patients.

Patients and Method: The index was translated using iterative translation process. Moreover, the psychometric properties of this translated SAQLI(CH) were tested with sleep Apnea patients in Chinese (Hong Kong). Seventy-three diagnosed sleep apnea patients were consecutively recruited from the sleep laboratory in Queen Mary Hospital and Pamela Youde Nethersole Eastern Hospital. SAQLI was forward and backward translated by two independent translators. Quantitative and qualitative data were used to assess the cultural equivalence, reliability and validity of SAQLI (Ch) Selected patients who were treated with continuous positive airway pressure (CPAP) treatment for 4-week or above were interviewed again to determinate the impacts of the treatment.

Results: The result of the pilot study showed that Cornbach's alpha coefficients of internal reliability were 0.867 for daily functioning, 0.850 for social interactions, 0.922 for emotional functional, and 0.825 for symptoms. Construct validity was satisfied as showed by item-scale correlations within each domain. It is also positively correlated with SF-36 of the similar domain. The sensitivity of the instrument was proven by the improvement in scores after CPAP treatment.

Conclusion: The SAQLI (Ch) was seen as a conceptually relevant and sufficient HRQOL for sleep apnea patients as an outcome measure in clinical trials.