A Disablément Measurement Index for Eustachian Tube Dysfunction

A 12 Item Validation

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OBJECTIVES

To describe the development of a clinical objective tool (DMIETD) to measure the impact of the Eustachian Tube Dysfunction (ETD) on quality of life (QOL) and symptom impact, and to test the reliability and validity of the newly developed instrument.

METHODS AND MATERIALS

The following types of ETD were differentiated among the study participants: 1) Obstructive Eustachian Tube Dysfunction (oETD), 2) Extrinsic Eustachian Tube Dysfunction (extraluminal), 3) Iatrogenic Eustachian Tube Dysfunction (post surgical), and 4) Idiopathic Eustachian Tube Dysfunction (primary). The diagnosis of ETD was based on patient’s clinical examination, history and discussions with the attending physicians, as well as questionnaires related to disability, and patient’s satisfaction with their health. The study was approved by the Human Studies Committee of the Sinus Surgery Center at the American British Medical Center, Mexico City. A questionnaire survey was administered to each patient from February 7 to 10, 2010. Patients were assigned into two groups depending on their clinical condition, as either being symptomatic or asymptomatic.

RESULTS

The DMIETD was self-administered on two different occasions separated by 2 weeks. The first and second data collection was at week 1 and week 2. The mean difference was 0.36 (p=0.001). The DMIETD scores and there was a statistical difference between the survey week 1 vs week 2. A high degree of longitudinal agreement was observed, with Cronbach’s alpha coefficient of 0.915. The DMIETD questions and to circle the correct response for the frequency and the intensity of their problems. (Figure 1) The overall internal consistency was measured in the patients following the according the DMIETD.

PATIENT’S SCORE POINTS 1 2 3 4 5 6

DISCUSSION

The DMIETD has been rigorously validated here demonstrating to be a valid and reliable tool across all time points (table 3 and 4). The brevity of administration makes this survey ideal for use in outcomes analysis, clinical trials, and routine clinical care.

CONCLUSIONS

The 12-item survey was administered to 48 consecutive patients with ETD and to 48 control subjects, with statistical analysis used to test for normality. A total of 12 items were administered to each patient. The instrument was significantly different from the corresponding items among the patients (ETD) and the control subjects (no ETD). There are significant differences between the symptom impact of the Eustachian tube or referring any conditions having the potential to influence the outcomes of the study (e.g. otitis media, tympanosclerosis, perforation, etc.). This study was conducted in a medical center for the evaluation, treatment, and follow-up of patients with ETD. A simple and direct clinical instrument has been developed that is helpful in the assessment, diagnosis, and treatment of patients with ETD. The ETD symptoms: S<0.05, 10.001, 0.01, 0.001, 0.0001, 0.00001, 0.000001. The DMIETD was compared between groups.

REFERENCES