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A Simple, Objective, and Mathematical Grading Scale for the Assessment of Facial Nerve Palsy

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Abstract: Objectives: It is imperative to acquire a simple, objective, and mathematical method for the assessment of facial nerve palsy which can be universally accepted and implemented. A grading scale which is convenient, continuous and economical was attempted for the first time for global and region-specific assessment of facial nerve palsy.

Study Design: Hospital-based observational study.

Setting: Medical college hospital.

Patients: Ten normal subjects and 51 patients with facial paralysis.

Interventions: Patients with facial nerve palsy were graded according to the revised version of House–Brackmann grading system (HBGS-2) and a newly proposed grading system.

Main Outcome Measures: The results of the present study were compared with the HBGS-2. Data were analyzed using SPSS-17 (IBM Corporation, New York) for descriptive statistics, normality test, Wilcoxon signed-rank test, and Mann–Whitney U test.

Results: The mean time spent on recording measurements was 288 seconds. For the new method and HBGS-2, the modes were graded 3 and 4, corresponding to incomplete facial paralysis. The Kolmogorov–Smirnov normality and Wilcoxon signed rank tests were found significant. In Mann–Whitney U test, probability value indicated that grades of new scale were similar to grades of HBGS-2.

Conclusion: The proposed simple, objective and mathematical (SOM) method of grading facial nerve palsy is convenient and provides global and regional continuous percentage that can monitor the progress and classify the patients with facial paralysis into six-point grades based on severity. This system was having substantial compatibility with HBGS-2 grading. For further validity, multi-center study with a larger sample of patients would be required.

KeyWords: Anti-Retroviral therapy, biodegradable nanoparticles, clinical study, future implication, manufacturing methods, patents, polymers employed.

Link: https://journals.lww.com/otology-neurotology/Abstract/2020/01000/A_Simple,_Objective,_and_Mathematical_Grading.30.aspx