**Institutionen för klinisk vetenskap, intervention och teknik,**
**Enheten för öron-, näs- och halssjukdomar**

# Bell's palsy - study design, prognosis and quality-of-life

AKADEMISK AVHANDLING
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# ABSTRACT

**Background:** Bell's palsy is an acute peripheral facial nerve dysfunction with unknown etiology, causing weakness or paralysis of the mimic muscles of the face. The disease can cause disfigurement of the face, impair the ability to eat, drink and speak, and seriously affect the patient's quality of life. Physicians have searched for tests or clinical signs that can predict the outcome of Bell's palsy but none have proven powerful enough. Studies also show several methodological differences and interpretation of results is difficult. In addition, validated instruments measuring quality of life aspects in these patients in Swedish have not been available.

**Aims:** To examine the effect of different analysis methods on a Bell's palsy study, to find prognostic clinical signs for non-recovery in Bell's palsy using the Sunnybrook facial grading scale, and to translate and validate the Facial Disability Index (FDI) and Facial Clinimetric Evaluation (FaCE) scale questionnaires in Swedish.

**Data:** Data for papers I-III were extracted from a prospective, controlled multicenter study including 829 patients with Bell's palsy. Patients were randomized to treatment with prednisolone and/or valacyclovir or placebo. In paper IV, 93 patients with stable peripheral facial palsy had their facial function assessed with House-Brackmann and Sunnybrook scales and answered FDI and FaCE-scale questionnaires on two occasions with a 2-week interval.

**Results and conclusions:** The choice of statistical method and definition of complete recovery substantially influence the calculated rate of recovery. These results emphasize the caution that must be exercised when interpreting clinical results in reported Bell's palsy studies. Early deterioration in Sunnybrook scores between baseline and first follow-up at days 11-17 is found to be a negative prognostic factor for complete recovery at 12 months. Early prednisolone treatment reduces this deterioration and improves outcome in patients with early deterioration. Sunnybrook grading at 1 month can accurately predict non-recovery (Sunnybrook< 70) at 12 months in Bell's palsy. A prediction model and a simple-to-use risk curve for identifying patients at risk for sequelae based on the Sunnybrook score at 1 month are presented and both can be used in clinical practice. The Swedish versions of the FDI and FaCE-scale show high reliability and validity, and the questionnaires can be used for clinical evaluation and for studies on patients with peripheral facial palsy in Sweden.


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