

A 5-years retrospective study of surgical outcomes of an early and delayed facial nerve decompression

Kalaiselvi Thuraisingam, MBBS, Asfa Najmi Mohamad Yusof, MD, MS (ORL-HNS), Hafeza Ahmad, MBBS, MS (ORL-HNS), Iskandar Hailani, MBBS, MS(ORL-HNS)

Department of Otorhinolaryngology - Head & Neck Surgery (ORL-HNS), Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

ABSTRACT

Introduction: Temporal bone fracture resulting in facial nerve palsy is a debilitating condition. Surgical exploration and decompression is beneficial in severe traumatic facial nerve palsy (FNP). The timing of surgery remains controversial. This study is to evaluate the outcome of facial nerve function in an early and delayed facial nerve decompression. **Methods:** A retrospective study of fifteen patients who underwent transmastoid facial nerve decompression for FNP secondary to temporal bone fracture between 2015 to 2020 in ORL-HNS Department of Hospital Kuala Lumpur. All patients were evaluated clinically and facial nerve function was assessed pre and postoperatively using House-Brackmann (HB) grading scale. **Results:** Out of fifteen cases, there were 6 cases of immediate onset and 9 cases of delayed onset FNP. The timing of surgical intervention ranged from 26 days to 325 days (mean 91 days). In the early decompression group, EDG (less than 6 weeks), there were a total of 8 cases while the delayed decompression group, DDG, comprised 7 cases. The outcome of EDG showed complete recovery in 2 cases (25%), improvement to HB grade II in 4 cases (50%), grade III in 1 case (12.5%) and grade IV in 1 case (12.5%) whereas in the DDG, it showed improvement to HB grade II in 4 cases (57%), grade III in 2 cases (29%) and grade IV in 1 case (14%). **Conclusion:** Based on our study, both early and delayed decompression groups showed improved facial nerve function post operatively. Early surgical intervention demonstrated better outcomes than late intervention. However, delayed facial nerve decompression also showed beneficial effects that support the role of surgery.

Correlation between quantitative laryngeal electromyography and voice assessment in unilateral vocal fold paralysis

Irise Chen Hoi Khin, MS (ORL-HNS)¹, Zuraini Mohammad Nasir, MS (ORL-HNS)², Rabani Remli, MMed (Neurology)³, Mawaddah Azman, MS (ORL-HNS)⁴, Marina Mat Baki, PhD, MS (ORL-HNS)⁴

¹Department of Otorhinolaryngology-Head and Neck Surgery, Tawau Hospital, Sabah, Malaysia, ²Department of Otorhinolaryngology-Head and Neck Surgery, University Putra Malaysia, Selangor, Malaysia, ³Department of Neurology and Internal Medicine, National University Malaysia Medical Center, Wilayah Persekutuan, Malaysia, ⁴Department of Otorhinolaryngology-Head and Neck Surgery, National University Malaysia Medical Center, Wilayah Persekutuan, Malaysia

ABSTRACT

Introduction: This study aims to correlate quantitative LEMG measurements of thyroarytenoid-lateral cricoarytenoid (TA-LCA) muscle complex with subjective and objective voice assessments in patients with unilateral vocal fold paralysis (UVFP). **Methods:** This is a cross-sectional study involving 77 patients (18 males, 59 females, mean age of 48) with UVFP. Laryngeal electromyography (LEMG) was used to determine mean turn (MT) and mean amplitude (MA) of paralyzed VF. Subjective (Voice Handicap Index-10 (VHI-10) and overall dysphonia) and objective (maximum phonatory time (MPT), jitter, shimmer, fundamental frequency (FF) and noise harmonic ratio (NHR)) voice assessments were used to assess voice parameters. Correlation between quantitative LEMG and voice assessment was evaluated using Spearman's correlation analysis. Comparison of objective voice assessment between gender and its correlation with quantitative LEMG were also analyzed. **Results:** There were weak positive correlation between MT and MA vs. MPT ($p < 0.05$) and weak negative correlation between MT and MA vs. VHI-10, jitter and shimmer ($p < 0.05$). There was no statistical correlation between MT and MA vs. overall dysphonia, FF and NHR ($p > 0.05$). In males, there were weak to moderate correlation between MT vs. MPT and FF ($p < 0.05$) and weak to moderate negative correlation between MT vs. jitter, shimmer and NHR ($p < 0.05$). In females, there were weak positive correlation between MT vs. MPT ($p < 0.05$) and weak negative correlation between MT vs. jitter, shimmer and FF ($p < 0.05$). There was no correlation between MT and NHR in females ($p > 0.05$). No significant correlation was found between MA and all voice assessment parameters across gender ($p > 0.05$). **Conclusions:** There were no correlation between quantitative LEMG and subjective voice assessment and statistically weak correlation between quantitative LEMG and objective voice assessment. Therefore, the quantitative activation of motor units may not reflect the voice parameters.