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Symptom Free Survival after Microvascular Decompression of the Facial Nerve in Hemifacial Spasm

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Disclosures

We have no conflicts of interest to disclose.

Introduction

- Hemifacial Spasm (HFS) is a rare condition characterized by paroxysmal, unilateral, involuntary contraction of facial muscles^{1,2}
- HFS is largely caused by neurovascular compression (NVC) of the facial nerve, most commonly the anterior inferior cerebellar artery (AICA)¹⁻⁴
- Microvascular Decompression (MVD) is a surgical treatment for this condition²
- The aim of this study is to examine symptom-free survival and long-term quality of life in patients with HFS who underwent MVD

Methods

- This is a retrospective chart review of 32 patients with HFS who underwent MVD at a single institution between 2002 and 2016
- Telephone survey modified from the HFS-7 questionnaire and House Brackmann Score was conducted
- Kaplan-Meier Analysis was used to determine event free survival
- Two-tailed student t-test was used to compare pre- and post-operative quality of life survey scores

Results

- Mean HFS-7 Scores were significantly reduced by 13.3 points after surgery (16.8 before surgery, 3.5 after surgery, $p < 0.001$)
 - Survey response was 66% (21/32)
- Mean symptom-free survival time was 6 years (73.8 months +/- 9.1 months)
 - Most HFS recurrences occurred in the first two years (7/8 that recurred)

Results

- 4 patients (4/32, 12.5%) experienced no relief of symptoms at 2-week follow-up and were excluded from KM analysis
- Of those remaining, 71% (20/28) were symptom free at longest follow-up
 - Mean length of follow-up was 2.5 years (6 months to 8.75 years)
- 3 patients (3/32, 9.3%) experienced persistent side effects at longest follow-up
 - Most commonly vestibular issues, these were described as tolerable

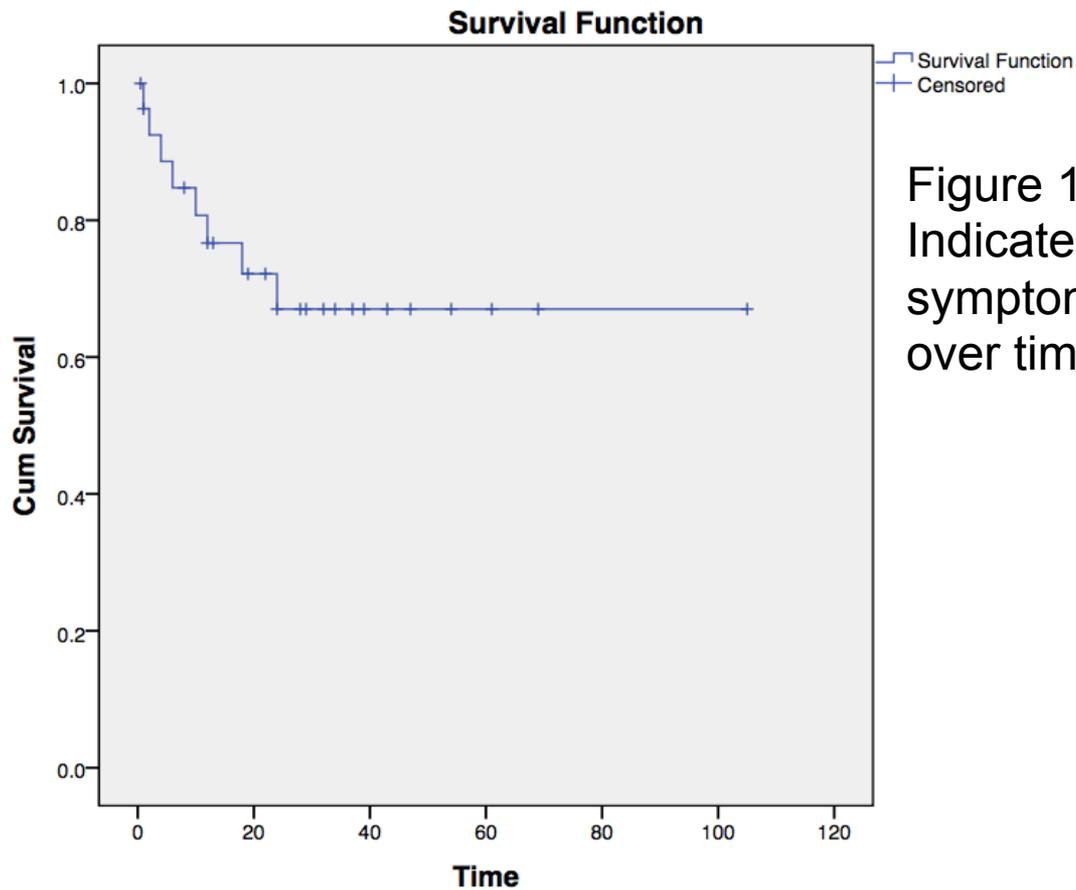


Figure 1.
Indicates cumulative symptom free survival over time (in months)

| Mean ^a | | | |
|-------------------|------------|-------------------------|-------------|
| Estimate | Std. Error | 95% Confidence Interval | |
| | | Lower Bound | Upper Bound |
| 73.792 | 9.140 | 55.877 | 91.707 |

Discussion

- To our knowledge, this is the first study to utilize Kaplan-Meier Survival Curves to determine symptom free survival in HFS patients who undergo MVD
 - Most patients experienced at least 6 years of symptom relief after MVD
 - 25% of patients experienced a delayed return of symptoms after initial symptomatic relief
 - 90% of the time this delayed recurrence will occur in the first 2 years following surgery
 - 12.5% of patients will experience no relief of symptoms after MVD
- MVD also results in a significant, 80% reduction in HFS-7 scores
- In conclusion, MVD is a safe and effective treatment for patients with HFS that significantly improves quality of life measures

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