

Microvascular Decompression for Hemifacial Spasm: Long-term Outcome and Prognostic Factors, with Emphasis on Delayed Cure.

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Introduction

The postoperative course of microvascular decompression (MVD) for hemifacial spasm (HFS) is variable, and the optimal time for assessing the results is unclear.

Methods

- From April 1997 to October 2007, MVD for HFS was performed in 801 patients
- Patients were divided into two groups (cured or failed) according to subjective patient assessments over a 3-year period
- Analyzed patient characteristics and surgical findings to determine prognostic factors
- Medical records were analyzed retrospectively over the 3-year follow-up period

Results

- Of the 801 patients who underwent surgery
- 743 (92.8 %) appeared to be cured
- 70 (8.7 %) had residual or recurrent spasms more than 1 year after surgery
- 11 (1.3 %) had gradual improvement over 3 years
- 1 (0.1 %) had delayed improvement more than 3 years after surgery
- 58 (7.2 %) had residual or recurrent spasms more than 3 years after surgery
- 19 (2.4 %) had recurrence after initial relief
- The mean time to spasm recurrence : 18.9 months
- Intraoperative resolution of the lateral spread response (LSR) after decompression ($p=0.048$) and severe indentation ($p=0.038$) were significant predictors of good long-term outcome after MVD for HFS
- 70 patients (8.7 %) had residual or recurrent spasms more than 1 year after surgery, of which 12 (17.1 %) improved gradually after 1 year

Dermographic and clinical characteristics and offending vessels of the study groups

Table 1 Demographic and clinical characteristics and offending vessels of the study groups

Characteristics	All	Cured group	Failed group
Number of patients (%)	801 (100)	743 (92.8)	58 (7.2)
Female:male (ratio)	583:218 (2.7:1)	544:199 (2.73:1)	39:19 (2.1:1)
Mean duration of symptoms (months)	65.9 (1 month to 30 years)	66.6 (1 month to 30 years)	57.1 (6 month to 20 years)
Mean age (years)	48.5 (19 to 75)	48.5 (19 to 75)	48.1 (25 to 69)
Left:right (ratio)	405:396 (1:1)	376:367 (1:1)	29:29 (1:1)
Offender (%; $p=0.880$)			
AICA	434 (54.2)	402	32
PICA	235 (29.3)	217	18
VA	10 (1.2)	9	1
AICA + PICA	46 (5.7)	44	2
AICA + VA	43 (5.4)	41	2
PICA + VA	9 (1.1)	9	0
AICA + PICA + VA	8 (1.0)	7	1
Vein only or combined	13 (1.6)	11	2
Other	3 (0.3)	3	0

AICA anterior inferior cerebellar artery, PICA posterior inferior cerebellar artery, VA vertebral artery

Table 3 Patient outcomes according to indentation grade of the REZ ($p=0.038$)

Indentation	Cured group (N=345)	Failed group (N=34)
(91.0 %)		(9.0 %)
Grade 1 (%)	72 (20.9)	12 (35.3)
Grade 2 (%)	131 (38.0)	15 (44.1)
Grade 3 (%)	142 (41.2)	7 (20.6)

Grade 1 no or minimal indentation, Grade 2 moderate indentation, Grade 3 severe indentation with discoloration

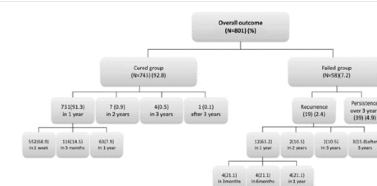
Table 4 Resolution of the lateral spread response (LSR) in the delayed recurrence and cured groups ($p=0.001$)

Resolution of LSR	Cured group (N=639)	Delayed recurrence group (N=19)
Immediate resolution of LSR (N=593) (90.1)	581 (98.0)	12 (2.0)
Delayed or persistence of LSR after decompression (N=65) (9.9)	58 (89.2)	7 (10.8)

Table 2 Resolution of the lateral spread response (LSR) according to patient outcomes ($p=0.048$)

Resolution of LSR	Cured group (N=639)	Failed group (N=50)
Immediate resolution of LSR (N=622) (90.3)	581 (93.4)	41 (6.6)
Delayed or persistence of LSR after decompression (N=67) (9.7)	58 (10.5)	9 (13.4)

Fig. 1 This flowchart shows the postoperative course of the study groups



Conclusions

If the surgeon can confirm intraoperative resolution of the LSR and severe indentation, reoperation can be delayed until 3 years after MVD.

Learning Objectives

Participants should be able to : 1) Describe the importance of intraoperative resolution of the LSR and severe indentation, 2) delay reoperation until 3 years after MVD.