



# Early Dramatic Recovery in Patients Treated in MERCI and Multi MERCI (Part 1)

Doojin Kim<sup>†</sup>, David S. Liebeskind<sup>†</sup>, Bruce Ovbiagele<sup>†</sup>, Fernando Vinuela<sup>†</sup>, Gary Duckwiler<sup>†</sup>, Reza Jahan<sup>†</sup>, Sidney Starkman, Marilyn Rymert<sup>‡</sup>, Jeffrey L. Saver<sup>†</sup>

<sup>†</sup>UCLA Stroke Center, UCLA Medical Center, University of California Los Angeles, Los Angeles, CA

<sup>‡</sup>Mid American Brain and Stroke Institute, Saint Luke's Hospital, Kansas City, MO



## Introduction

- Acute stroke patients show early dramatic recovery at 24 hours more frequently when treated with intravenous (IV) tissue plasminogen activator (tPA) than with supportive care (22% vs 12%)
- Previous definitions of dramatic recovery in patients treated with IV tPA have included--
  - NIHSS score change of  $\geq 5$  in a post-hoc analysis of the NINDS tPA Stroke Study<sup>1</sup>
  - NIHSS score change of  $\geq 10$  or a score of 0 at 24 hours<sup>2</sup>
  - NIHSS score change of  $\geq 8$  or a score of 0 at 24 hours<sup>3</sup>
- Dramatic recovery has been reported in 22%-31% of IV tPA-treated patients<sup>2,3</sup>
- Dramatic recovery has been reported in 27% of IA tPA-treated patients<sup>4</sup>
- We investigated the prevalence, clinical characteristics and outcome of dramatic recovery after mechanical thrombectomy with the Merci clot retrieval device system (Concentric Medical, Mountain View, CA)

## Methods

- Retrospective analysis of 252 patients treated in the MERCI and Multi MERCI (Part 1) trials
- Dramatic recovery was defined as an improvement of  $\geq 8$  NIHSS points or a NIHSS score of 0 at 24 hours.
- All comparisons made using the Fisher exact test, two-sided.

## Results

- 219 of the 252 patients who underwent mechanical thrombectomy with the Merci device had baseline and 24 hour NIHSS scores
- Mean age was 70 (interquartile range 55-79%), 49% female
- 28% of patients (62/219) showed dramatic recovery at 24 hours
- Patients with and without dramatic recovery did not differ in pretreatment NIHSS score (18.5 vs 19) or age (70 vs 70)
- Dramatic recovery was strongly associated with successful revascularization (TIMI II or III) (57% vs 7%,  $p < 0.0001$ )
- Time from onset to procedure start time was associated with dramatic recovery (3.8 hrs vs 4.3 hrs,  $p = 0.0348$ )

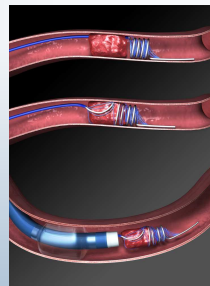


Figure 1: The Merci Clot Retrieval Device system

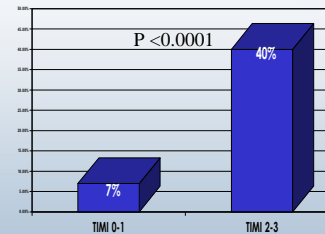


Figure 2: Percentage of patients with dramatic recovery based on post-procedure TIMI Score

## Results

- Median 24-hour NIHSS scores were significantly lower in the patients with dramatic recovery (5.5 vs 20,  $p < 0.0001$ )
- More symptomatic hemorrhages occurred in the patients without dramatic recovery (9.6% vs 0%,  $p < 0.0071$ )
- Good functional outcome (modified Rankin  $\leq 2$ ) was achieved more frequently in the dramatic recovery patients at 90 days (79% vs 14%,  $p < 0.0001$ )
- More patients with dramatic recovery survived to day 90 than non-dramatic recovery patients (43% vs 5%,  $p < 0.0001$ )

## Conclusions

- Dramatic improvement occurs as frequently in patients treated with MERCI (unselected population treated 0-8 hrs) as those treated with IV and IA thrombolytics.
- Dramatic improvement with Merci is strongly associated with the achievement of angiographic recanalization.
- Dramatic recovery is predictive of favorable 3-month outcome in Merci patients.

## References

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