



# Predictors of Good Outcome in Patients Undergoing Endovascular Treatment of Acute Ischemic Stroke under General Anesthesia

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## Background

- Several studies report an association of general anesthesia (GA) with poor outcomes in patients undergoing endovascular treatment of acute ischemic stroke (AIS). (1,2,3)
- Factors associated with good outcomes in patients receiving general anesthesia for endovascular treatment are unknown.

## Methods

- Retrospective chart review study
- Patients > 18 years undergoing endovascular treatment of AIS were included.
- Patients who received local anesthesia or monitored anesthesia care were excluded.
- Data sources were institutional anesthesia data base, stroke registry, electronic medical records.
- Primary outcome measure was Modified Rankin Score (mRS): a) mRS 0-2 = good outcome, b) mRS 3-6 = poor outcome.
- Association between the clinical characteristics and the outcomes were assessed by Independent t test, Chi square test, and Fishers exact test.
- P<.05 considered statistically significant

Table 1: Univariate analysis showing comparison of characteristics between patients with good outcome (mRS 0-2) and poor outcome (mRS 3-6) after endovascular treatment of Acute Ischemic Stroke under General Anesthesia.

	Good Outcome mRS 0-2 (n=20)	Poor Outcome mRS 3-6 (n=70)	P value
Pre-Procedure NIHSS	13±7	18±8	.013
Intubation prior to start of anesthesia	0 (0%)	25 (36%)	.001
Extubation at the end of procedure	18 (90%)	19 (27%)	.000
Highest End-tidal CO <sub>2</sub> under anesthesia (mmHg)	50±8	45±7	.019
Average End-tidal CO <sub>2</sub> under anesthesia (mmHg)	37±5	35±3	.028
Pre stroke Beta-blocker use	13 (65%)	24 (34%)	.023

Data are presented as mean ± SD, n (%).

NIHSS= National Institute of Health Stroke Scale

Only the characteristics with statistical significance (p<0.05) are shown

## Results

- 90 patients (58/32 M/F), aged 63±15 years were included.
- Anterior cerebral circulation was affected in 74(82%).
- Median pre-procedural National Institute of Health Stroke Scale (NIHSS) score was 16 (1-38).
- Thirty-six (40%) and 21(24%) patients were on beta-blockers and ACE inhibitors, respectively.
- Overall, 20(22%) patients had good outcome (mRS 0-2).

## Conclusion

In patients receiving GA, ventilation management including management of CO<sub>2</sub> and extubation at the end of procedure may impact patient outcomes.

## References

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