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Further insights into blood pressure threshold in patients undergoing mechanical thrombectomy under general anesthesia: a single-center, retrospective, cohort study

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Introduction & Aim

General anesthesia (GA) can induce hemodynamic instability during mechanical thrombectomy (MT) but might also enhance the brain's resilience to hypotension. Our study investigated the link between different blood pressure (BP) thresholds and neurological outcomes during MT under GA.

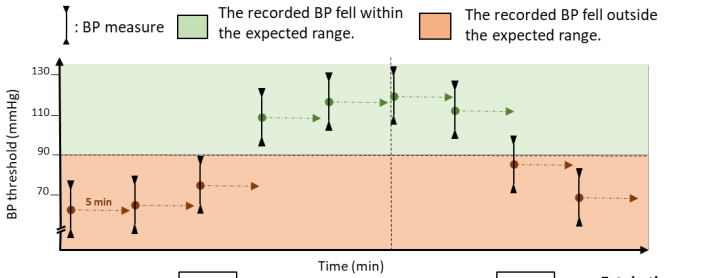
Methods

Analysis from a prospective cohort database.

We included consecutive adult patients with anterior vessel occlusion stroke who had successful MT (TICI > 2b) under GA between March 2014 and June 2019.

BP thresholds were derived from a comprehensive literature review.

Significant confounding factors were pinpointed through univariate analysis. A multivariate model assessed the correlation between BP thresholds and 3-month modified Rankin Score (mRS), and between SBP thresholds during T2 and intracranial hemorrhagic complications.



T1 SELECTED BP THRESHOLDS

- MABP < 90, 80 or 70 mmHg
- ΔMABP of 20% or 40%
- MABP < 70 mmHg for at least 10 min or for > 60% of T1
- SBP < 140 mmHg

T2 SELECTED BP THRESHOLDS

- MABP > 90 mmHg for more than 45 min
- SBP > 160, 170 or 180 mmHg

Results

- 270 patients analyzed
- 30 % had MABP ≤ 70 mmHg for at least 10 minutes in T1
- 11 % had MABP ≥ 90 mmHg for a minimum of 45 min in T2
- 50 % unfavorable outcome (mRS 3-6)
- 13% intracranial hemorrhage

No significant association was observed between BP thresholds and mRS (*p value* > 0.45 for all BP thresholds) or intracranial hemorrhage (*p value* > 0.67 for all SBP thresholds).

Discussion & Conclusion

GA might bolster the brain's defense against BP drops.

Tailored BP thresholds could be more effective than fixed benchmarks.

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