Cognitive Impairment in Patients with Infratentorial Stroke Undergoing Acute Stroke Rehabilitation

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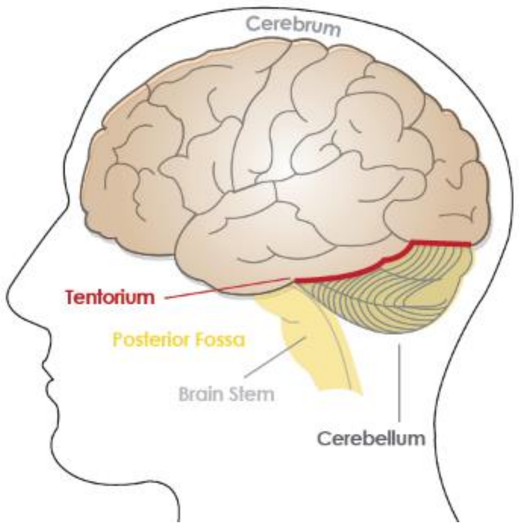

Background/Objectives

- Those with infratentorial stroke have shown motor and cranial nerve dysfunction
- Cognitive impairment may be present
- Research is needed to characterize the frequency, nature, and severity of potential cognitive changes to inform rehabilitation

Objective: Evaluate cognitive functioning in those with infratentorial stroke undergoing acute inpatient rehabilitation

Participants

- Enrolled in ongoing clinical trial on acute rehabilitation unit
- History of stroke and mild-moderate cognitive impairment
- Completed tablet-based cognitive assessment (TabCAT)
- N = 7; 4 female
- Med. age = 69 years; range = 53–88 years
- Med. edu. = 16 years; range = 6-20 years

Methods

- Outcome variables included performance on cognitive measures including:
  - Working memory (Dot Counting)
  - Processing speed (Match)
  - Inhibition (Flanker)
  - Cognitive flexibility (Set-Shifting)
  - Memory (Favorites Recall)
- Impairment considered to be ≤ 1.5 SD below normative mean
- Comparison group: participants with supratentorial stroke, N = 17
- Analyses included Mann-Whitney U tests

Results

- Impairment observed in:
  - Attention/working memory
  - Set-shifting/cognitive flexibility
  - Inhibition
- No differences between those with infratentorial and supratentorial stroke

TabCAT Measure (Normed)	Mann-Whitney U	P Value
Match Z-Score	34.00	.498
Dot Counting Z-Score	52.00	.787
Set-Shifting Z-Score	37.00	.673
Flanker Z-Score	19.00	.462
Favorites Recall Z-Score	39.00	.255

Results of Mann-Whitney U tests comparing results of participants with infratentorial and supratentorial stroke.

Conclusions

- Those with infratentorial stroke may exhibit impairment similar to those with supratentorial stroke including working memory and executive functioning
- Identification of cognitive deficits in those with infratentorial stroke is critical
- Continued research is warranted with larger sample sizes

TabCAT Measure	Match	Dot Counting	Set-Shifting	Flanker	Favorites Recall
Median Z-Score	-3.86	-2.35	-3.79	-3.53	-.47
Minimum Z-score	-4.92	-2.61	-11.35	-6.38	-2.71
Maximum Z-score	-.93	2.52	-.63	-3.25	.55

Descriptive statistics of TabCAT performance in participants with infratentorial stroke.

The current study was funded by: K12 Career Development Award to AJ (1K12-HD093427-04 via subaward from Georgetown University)

Diagram: https://www.cern-foundation.org/education/ependymoma-basics/spine-and-brain-anatomy