

## Disorder: the Florida Stroke Registry

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### INTRODUCTION

Early consciousness disorder (ECD) post acute ischemic stroke (AIS) is common (4-38%) and is under-investigated. ECD after AIS may affect the decision to withdraw life-sustaining treatment (WOLST) and subsequently overall outcomes.

### HYPOTHESIS

ECD may affect the decision to WOLTS and subsequently outcomes after AIS.

### METHODS

**Design** Patients with AIS were included across 121 Florida hospitals participating in the Florida Stroke Registry (AHA Get With The Guidelines-Stroke program) from 2010-2019.

**Exposure** Preserved or impaired LOC on presentation (ECD).

**Main outcomes and Measures** In-hospital mortality (primary outcome), WOLST, ambulation status on discharge, hospital length of stay, and discharge disposition.

### RESULTS

Among **238,989** cases with AIS (mean age 77, 54% women, 60% white, 19% Black, 16% Hispanic), 32,861 (14%) had early consciousness disorder (ECD). Compared to cases without ECD, patients with ECD were older (77 vs. 72 years), more women (54% vs. 48%), had more comorbidities (38% vs. 16%), had greater NIHSS  $\geq 5$  (49% vs. 27%), greater risk of WOLST (21% vs. 6%), and had an increased in-hospital mortality (9% vs. 3%). In the multivariable-logistic regression with generalized estimating equations accounting for basic demographics, comorbidities, disease severity, hospital size and teaching status, patients with ECD were less likely to be discharged home/rehab (odds ratio 0.7, 95%CI 0.6-0.8,  $p < 0.0001$ ), and less likely to ambulate independently (odds ratio 0.7, 95%CI 0.6-0.9,  $p = .001$ ). We found no association with increased mortality or length of stay in our adjusted model. Using temporal trend analysis (2010-2019), we found a significant decrease of early WOLST ( $< 2$  days) rates ( $R^2$  0.7,  $p = .002$ ) and an increase of late ( $\geq 2$  days) WOLST ( $R^2$  0.7,  $p = .004$ ).

### DISCUSSION

WOLST is decided early and frequently after AIS. ECD was associated with more disability and worse discharge disposition outcomes. Although mortality was higher in the ECD group, the association was not significant when adjusted for demographics, comorbidities, disease severity, hospital size and teaching status. Early WOLST rates are in decline.

Clinicians should provide aggressive care and avoid early WOLST after presentation to limit the impact of this self-fulfilling prophecy in acute brain injury patients. Future studies should focus on long-term mortality, cognitive and functional outcomes in patients with impaired level of consciousness after AIS.

### SUMMARY

AIS patients presenting with ECD had higher rates of WOLST and more disability on discharge. Early WOLST is in decline whereas late WOLST is increasing.

### REFERENCES

- Navarrete-Navarro P, Rivera-Fernández R, López-Mutuberría MT, et al. Outcome prediction in terms of functional disability and mortality at 1 year among ICU-admitted severe stroke patients: a prospective epidemiological study in the south of the European Union (Evascan Project, Andalusia, Spain). *Intensive Care Med.* 2003 Aug;29(8):1237-44. doi: 10.1007/s00134-003-1755-6. Epub 2003 May 16. PMID: 12756437.

### AUTHOR DISCLOSURES

AA is supported by an institutional KL2 Career Development Award from the Miami CTSI NCATS UL1TR002736.

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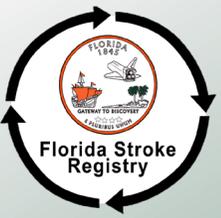


# INTRODUCTION

Early consciousness disorder (ECD) post acute ischemic stroke (AIS) is common (4-38%) and is under-investigated. ECD after AIS may affect the decision to withdraw life-sustaining treatment (WOLST) and subsequently overall outcomes.



# HYPOTHESIS



Impaired level of consciousness on presentation (ECD) may affect the decision to WOLTS and subsequently outcomes after AIS.

# METHODS



**Design** Patients with AIS were included across **121** Florida hospitals participating in the Florida Stroke Registry (the AHA Get With The Guidelines-Stroke program) from **2010-2019**.

**Exposure** Preserved or impaired level of consciousness on presentation (ECD).

**Main outcomes and Measures** In-hospital mortality (primary outcome), WOLST, ambulation status on discharge, hospital length of stay, and discharge disposition.

**Statistical Analysis:** A multivariable-logistic regression with generalized estimating equations (GEE) accounted for demographics, ICH severity, comorbidities, hospital size and teaching status. We performed temporal trend analysis to study the rates of early (<2 days) and late ( $\geq 2$  days) WOLST from 2010 to 2019.

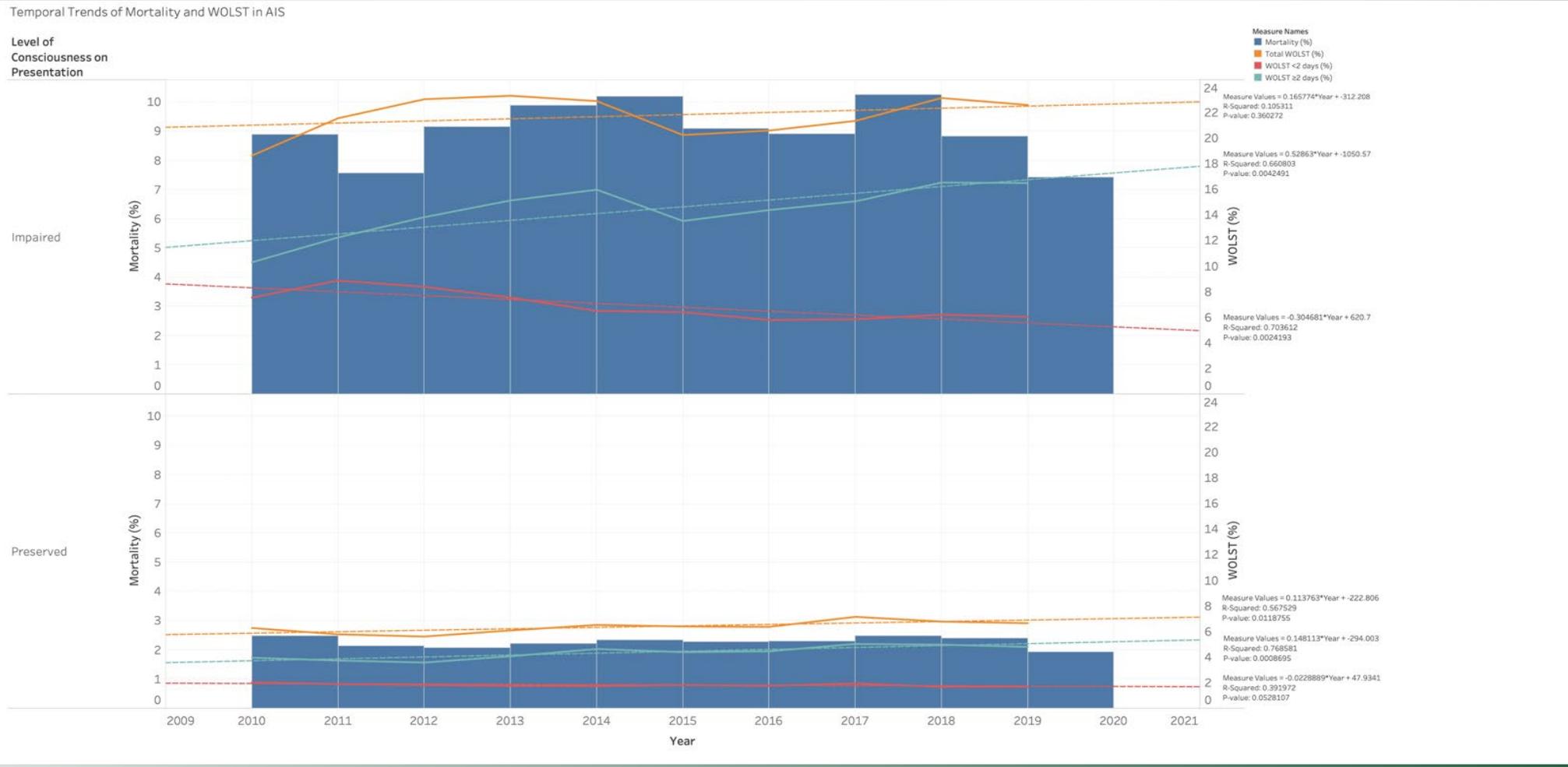
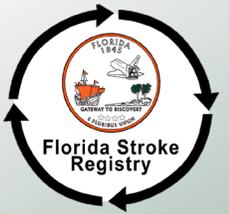


# RESULTS

- Among **238,989** cases with AIS (mean age 77, 54% women, 60% white, 19% Black, 16% Hispanic), 32,861 (**14%**) had early consciousness disorder (ECD).
- Patients with ECD had greater rates of WOLST (**21% vs. 6%**) and had an increased in-hospital mortality (**9% vs. 3%**).
- In the multivariable-logistic regression with generalized estimating equations accounting for basic demographics, comorbidities, disease severity, hospital size and teaching status, patients with ECD were less likely to be discharged home/rehab (**OR 0.7, 95%CI 0.6-0.8, p <0.0001**), and less likely to ambulate independently (**OR 0.7, 95%CI 0.6-0.9, p = .001**). We found no association with increased mortality or length of stay in our adjusted model.
- Using temporal trend analysis (2010-2019), we found a significant decrease of early WOLST (< 2 days) rates (**R<sup>2</sup> 0.7, p = .002**) and an increase of late (≥ 2 days) WOLST (**R<sup>2</sup> 0.7, p = .004**).
- Compared to cases with preserved LOC, patients with impaired LOC were older (**77 vs. 72 years**), more women (**54% vs. 48%**), had more comorbidities (**38% vs. 16%**), had greater NIHSS ≥ 5 (**49% vs. 27%**).



# RESULTS





# DISCUSSION

WOLST is decided early and frequently after AIS. ECD was associated with more disability and worse discharge disposition outcomes.

Although mortality was higher in the ECD group, the association was not significant when adjusted for demographics, comorbidities, disease severity, hospital size and teaching status. Early WOLST rates are in decline.

Clinicians should provide aggressive care and avoid early WOLST after presentation to limit the impact of this self-fulfilling prophecy in acute brain injury patients.



# SUMMARY



AIS patients presenting with ECD had higher rates of WOLST and more disability on discharge. Early WOLST is in decline whereas late WOLST is increasing.

Future studies should focus on long-term mortality, cognitive and functional outcomes in patients with impaired level of consciousness after AIS.



## REFERENCES

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