

# Glasgow Coma Scale scores and Impact of delirium on intubated seizure patients treated with Phenytoin and Lacosamide

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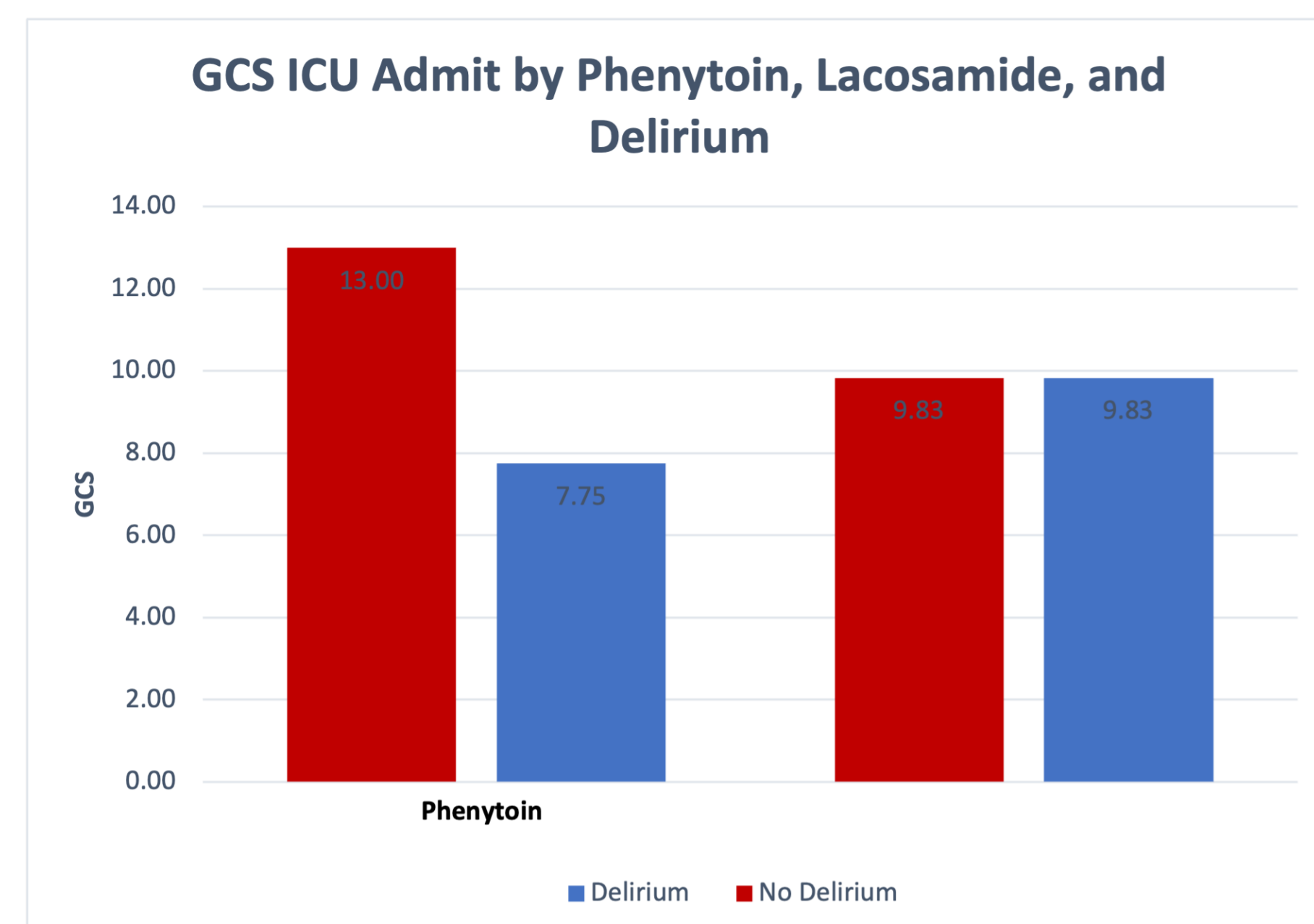
## Introduction

### Background:

Postictal delirium affects more than 50% of status epilepticus (SE) patients.<sup>1</sup> Delirium leads to many complications,<sup>2</sup> and positively correlates with length of Intensive care Unit (ICU) stay and increased mortality. When Refractory status epilepticus (RSE) has not responded to benzodiazepines, it requires second-line Phenytoin or third-line Lacosamide.<sup>3</sup> Intubated SE had higher overall mortality.<sup>4</sup>

### Objective:

This study aimed to assess the impact of delirium in intubated seizure patients who were treated with Phenytoin and Lacosamide.



## Results

Mean age: 63 years, 50% of phenytoin group experienced delirium (4/8), 50% of the lacosamide group also experienced delirium (6/12), thus showing no difference between the medication groups. Phenytoin admit GCS score mean 10.38, discharge GCS 14.8, GCS change 4.50, Lacosamide admit GCS 9.83, discharge GCS 13.33, GCS change 3.50. Admit and discharge GCS was significantly higher for those receiving phenytoin ( $t(18)=1.498, p=.007$ ). Interestingly, phenytoin group was also intubated significantly longer ( $t(18)=.566, p=.041$ ). When classifying GCS severity (9-15) vs. (8-1), individuals with GCS < 9 were much more likely to experience delirium with 8 out of 11 (73%) patients experiencing delirium versus 22% (2 out of 9) for individuals with GCS > 9. Patients with delirium had longer ICU stays (7.5 days vs. 3.91) and hospital stays (14.6 days vs. 8.08).

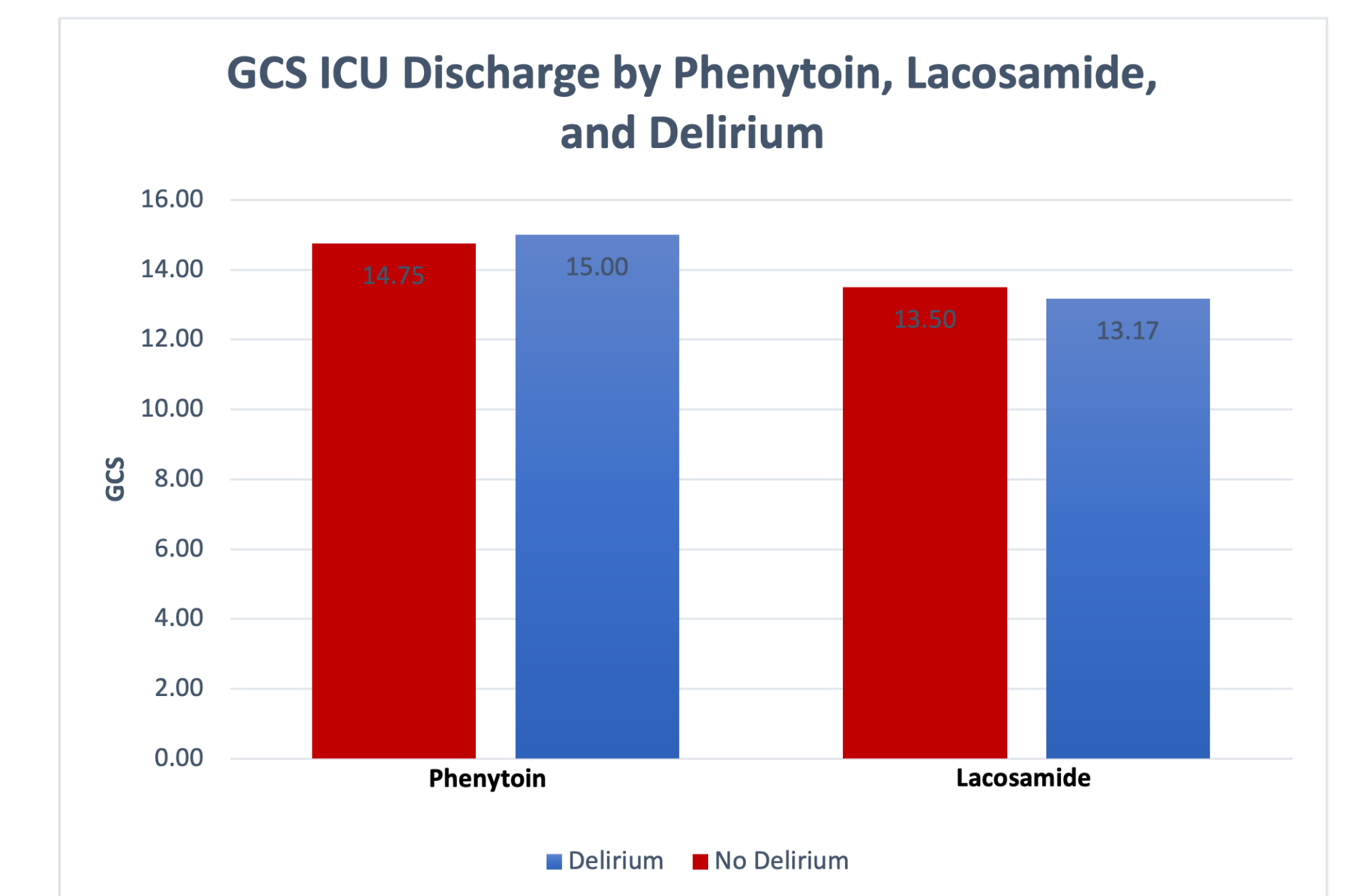
## Conclusion

### Discussion:

In this retrospective chart review, low GCS score in SE patients correlated with delirium, and these patients had longer ICU and hospital stays. Prospective studies are needed to see if low GCS score in SE could predict delirium so that intervention can be provided.

### Conclusion:

Low GCS score could predict emerging delirium in intubated SE patients. Studies are needed to see if early treatment of delirium in SE can decrease the ICU length of stay.



## Methods

In this retrospective study, we reviewed the charts of intubated seizure patients on Phenytoin and Lacosamide from 2018 to 2020 in the Neuro-ICU. Dates of hospitalization, ICU admission and discharge, intubation, extubation, Glasgow Coma Scale score at admission and delirium diagnoses were extracted. Deceased patients were excluded, as were patients not receiving phenytoin or lacosamide, and patients receiving both medications. A total of 20 charts were included in the final analysis. 8 received phenytoin, and 12 received lacosamide.

## Table

	Delirium	No Delirium
GCS > 9	2 Patients	7 Patients
GCS < 9	8 Patients	3 Patients

## References

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3. Billington M et al. Adult Status Epilepticus: A Review of the Prehospital and Emergency Department Management. *J Clin Med.* 2016;5(9)
4. Lowenstein DH, Alldredge BK. Status epilepticus. *N Engl J Med.* 1998;338(14)