

# Continuous EEG and Pupillometry abnormalities in Acute Liver Failure

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## INTRODUCTION

We aim to characterize pathologic changes in cEEG and pupillometry observing attenuation in the normal pupillary index (NPI) in patients with heterogeneous causes of acute liver failure (ALF).

## METHODS

Pupillometer readings were dichotomized to high and low NPI responsiveness, with a threshold NPI of 3.5. A threshold of 20% of total NPI recordings below 3.5 was used as a cutoff for group comparison.

## RESULTS

- 4 patients with >20% low NPI responsiveness had burst suppression
- 8 patients had low NPI responsiveness in <20% of recordings had slowing on cEEG.

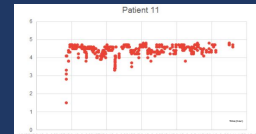
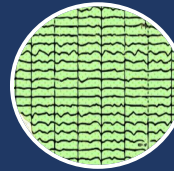
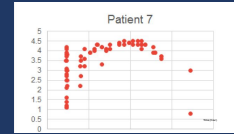
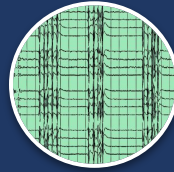
The increased frequency of low NPI responsiveness appeared to correlate with the occurrence of burst suppression ( $p < 0.05$ ).

## CONCLUSION

In the absence of structural or pharmacologic triggers, these changes likely reflect metabolic suppression from hepatic encephalopathy.

# Low NPI responsiveness correlates with burst-suppression on cEEG in ALF

12 ALF patients



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Patient	Background	Rhythmic and period patterns	Seizure
1	Theta, superimposed delta, alpha, beta	No	No
2	Burst-suppression	GPDs	No
3	Delta, superimposed theta	No	No
4	Delta, superimposed theta/alpha	GRDA (frontal)	No
5	Diffuse delta/ Late-burst suppression	GRDA	No
6	Delta, superimposed theta	No	No
7	Burst-suppression	No	No
8	Delta, superimposed theta	GPDs	No
9	Theta, superimposed delta	LPDs right temporal region	No
10	Delta, superimposed theta	GRDA	No
11	Delta, superimposed theta	GPDs	No
12	Delta, superimposed theta	GRDA	No

## REFERENCES

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## DISCLOSURES

The authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.



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