

## **Gamma-hydroxybutyrate Overdose in Inner-Sydney Emergency Departments: a retrospective review**

OLIVER HARRIS<sup>1</sup>, KRISTA J SIEFRIED<sup>2</sup>, ANGELA CHIEW<sup>3</sup>, GONZALO AGUIRREBARRENA<sup>4</sup>, DARREN ROBERTS<sup>5</sup>, ANNA SORDO<sup>6</sup>, JONATHAN BRETT<sup>5</sup>

<sup>1</sup>*School of Medicine, University of New South Wales, Sydney, Australia,* <sup>2</sup>*Alcohol and Drug Service St. Vincent's Hospital, Sydney, Australia,* <sup>3</sup>*Emergency Department, Prince of Wales Hospital, Sydney,* <sup>4</sup>*Emergency Department, St. Vincent's Hospital, Sydney,* <sup>5</sup>*Clinical Pharmacology and Toxicology Department, St. Vincent's Hospital, Sydney,* <sup>6</sup>*University of New South Wales, Sydney, Australia*

**Presenter's email:** [z5213551@ad.unsw.edu.au](mailto:z5213551@ad.unsw.edu.au)

**Introduction and Aims:** GHB overdose can result in severe toxicity and mortality, yet there remains a lack of consensus regarding acute management. This study aims to describe the spectrum of GHB toxicity and management in two urban EDs and factors associated with intubation and time to recovery of GCS  $\geq 9$ .

**Design and Methods:** We conducted a retrospective audit of patients presenting to St Vincent's Hospital Sydney's (SVHS) and Prince of Wales' ED with a GHB-related overdose in August each year between 2010 and 2021. We collected data on demographics, triage, changes in vital signs, incidence of intubation, disposition, location, and length of stay. We performed logistic regression to determine associations between patient characteristics at presentation (triage, substance use, presenting symptoms/sign, and sedation for behavioural disturbance) and incidence of intubation.

**Key Findings:** We recorded 434 episodes of GHB overdoses across two hospitals. Of these, 53.7% were male, 16.2% were <25 years old, 39.4% ingested alcohol, 51.2% co-ingested an illicit substance, 41.4% presented with a GCS<9, and 12.7% were intubated. The factors associated with intubation in multivariable regression included presenting with seizures (OR 8.69,  $p < 0.001$ ), triage category (OR 0.36,  $p < 0.001$ ) and presenting GCS (OR 0.60,  $p < 0.01$ ).

**Discussions and Conclusions:** Here we describe the demographics, presentation, and management of GHB overdose. We identify seizures, triage category, and presenting GCS as the only factors significantly associated with intubation, suggesting that the majority of GHB overdoses are managed conservatively without intubation. This assists in developing guidelines to manage GHB overdose.

**Disclosure of Interest Statement:** No disclosure of interest