

Severity and outcomes of inpatient admissions for gamma hydroxy-butyrate withdrawal amidst COVID-19 pandemic in South Western Sydney

RICKY HARJANTO¹, ANTON DU TOIT², SANDRO SPERANDEI², PRAKASH POUDEL¹, SAMANTHI ABEYWARDANA¹, KYLIE LOMBARDO¹, RICHARD HALLINAN^{1,3}, PETER MCCAUL¹, GILBERT WHITTON¹

¹South Western Sydney Local Health District Drug Health Services, New South Wales Health, Sydney, Australia, ²Translational Health Research Institute, Western Sydney University, Sydney, Australia, ³School of Medicine, University of Sydney, Sydney, Australia

Presenter's email: ricky.harjanto@health.nsw.gov.au

Introduction and Aims: Dependence on Gamma-hydroxybutyrate, and its precursors gamma-Butyrolactone and 1,4-butanediol (henceforth GHB), is an emerging substance use disorder which is life-threatening in overdose and withdrawal. The aim of the project is to describe rising hospitalisations amidst the ongoing COVID-19 pandemic when illicit drug supply and demand and access to treatment services may be affected.

Design and Methods: This is a retrospective consecutive case series of adult patients admitted to hospitals in South Western Sydney Local Health District with clinical coding of GHB-related disorder between March 20, 2019 and March 20, 2021. Descriptive statistical analysis was performed on morbidity outcomes and multivariable Kaplan-Meier survival analysis on length of hospital stay by univariable analysis with $p < 0.3$.

Results: 47 out of 84 (56%) GHB-related admissions among 68 patients involved GHB withdrawal, of which 36 of 47 (77%) were emergency presentations and 7 of 47 (15%) were re-admissions within the study period. 15 of 47 (32%) withdrawal-related admissions had a prior history of withdrawal seizures and/or delirium. 15 of 47 (32%) required intensive or one-to-one care, with 6 of 47 (13%) intubated, and 8 of 47 (17%) required ward emergency calls for agitated delirium ($n=6$), fall ($n=1$), or seizure ($n=1$). No patients died. 7 of 84 (8%) admitted patients self-discharged against medical advice. Five cofactors were significant in the multivariable analysis of length of hospital stay ($p < 0.05$): age 30 or older (HR 0.53 [0.29-0.95], $p=0.03$), six months of regular GHB use (HR 0.38 [0.21-0.70], $p=0.002$), elective admission (HR 0.44 [0.21-0.95], $p=0.035$), withdrawal presentation (HR 2.86 [1.16-7.03], $p=0.022$), and overdose presentation (HR 12.57 [3.97-39.77], $p < 0.001$).

Implications for Practice or Policy: Development of a validated GHB withdrawal severity scale based on these risk factors can help identify patients with regular GHB use requiring closer monitoring for complicated withdrawal and escalation of care.

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