

# IATROGENIC OPIOID OVERDOSE IN AN OPIOID-NAIVE PERSON GIVEN HIGH-DOSE LONG-ACTING INJECTABLE BUPRENORPHINE

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# THE CLIENT

- 50yo lady lives alone in a caravan
- Withdrawal-related seizures
- Chronic mild hyponatraemia, with acute exacerbations as low as 101mmol/L secondary to alcohol and SNRI use
- Confusion and falls
- Comminuted displaced intra-articular # left acetabulum requiring ORIF, complicated by post-op PE, warfarinised
- Incidental finding of berry aneurysm at bifurcation of right MCA – subsequently clipped
- 9 months of abstinence on naltrexone
- Trial of topiramate for alcohol pharmacotherapy

## DAY 0

- Brought to ED after witnessed generalised tonic-clinic seizure in doctor's waiting room approx. 15mins after being given a 128mg monthly LAIB
- Had significantly decreased or possibly ceased alcohol use in the days prior
- Blood ethanol 0.00 on arrival in ED
- Sodium 107mmol/L

# INITIAL PROGRESS

- Admitted to ICU for management of seizures, decreased GCS and electrolyte abnormalities
- Day 1 (Fri): successfully extubated on day 1, persistent confusion
- Day 2 (Sat): transferred to general ward, increasing confusion & agitation through the day
- Day 3 (Sun): increasing sedation and decreasing SaO<sub>2</sub>
- Day 4 (Mon): unrousable, not protecting her own airways
- Admitted to ICU, I&V, no longer making spontaneous attempts to breathe
- Reviewed by AOD CLS nurse who noted that client had been given LAIB on day of admission, more collateral information sought re ?opioid dependence

# PROGRESS

- Day 5 (Tue): Reviewed by Addiction Medicine Specialist, further collateral history obtained
- Became apparent that progressive sedation & respiratory depression were due to the onset of effect from the LAIB, naloxone infusion commenced with good effect
- Day 7 (Thu): oral naltrexone commenced
- Day 9 (Sat): naloxone infusion weaned without re-emergence of narcotisation

# MONITORING

Days post-LAIB	18	26	33	92	99	118	130	151
Urine drug screen for BPN (cut-off 5ug/L)	Detected	Detected	Detected	Not detected		Not detected	Not detected	Not detected
Urine creatinine (mmol/L)	18.3	4.3	3.3	1.8		7.1	3.4	3.2
Urine buprenorphine GCMS (ug/L)				2.3		7	2	2
Urine norbuprenorphine GCMS (ug/L)				8		15	5	6
Blood BPN level (cut-off 0.5ug/L)					<0.5		<0.5	
Blood norBPN level (cut-off 1.0ug/L)					<1.0		<1.0	



# CONCLUSIONS & QUESTIONS

- This case of iatrogenic opioid overdose caused by LAIB was successfully managed with oral naltrexone.
- The optimal duration of oral naltrexone therapy in such situations is yet to be determined.
- In this case, plans were made to safely discontinue oral naltrexone under observation but the client opted to continue naltrexone long-term as she felt it was helping to keep her alcohol use “under control”.
- Trace amounts of buprenorphine and norbuprenorphine were detectable on GCMS in the patient’s urine five months after administration of LAIB.
- There is not a good correlation between blood and urine levels of BPN.
- The clinical significance of these levels of BPN and norBPN is unknown.