Iatrogenic Opioid Overdose in an Opioid-Naïve Person Given High-Dose Long-Acting Injectable Buprenorphine

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Background: Long acting injectable buprenorphine (LAIB) is the newest form of treatment for opioid dependence. It was introduced in Australia in late 2018 and listed on the Pharmaceutical Benefits Scheme in late 2019.
To date, there are no published case reports examining the management of iatrogenic opioid overdose caused by the administration of LAIB to an opioid-naive patient. This report describes such a case.

Description of Intervention: A 49yo opioid-naive, alcohol-dependent woman was given a 128mg dose of subcutaneous LAIB in the community.
She had ceased or reduced alcohol use several days earlier, and had a witnessed tonic-clonic seizure approximately 15 minutes after receiving the LAIB, caused by a combination of alcohol withdrawal and severe hyponatraemia.
She was admitted to hospital for management of electrolyte abnormalities, and developed progressively worsening sedation and respiratory depression from around 48-60 hours post-administration of LAIB. By 90hrs post-administration, she was unrousable and unable to maintain her airway, necessitating intubation and ventilation.
She was commenced on an intravenous naloxone infusion, with rapid resolution of the sedation and respiratory depression.
She was subsequently commenced on oral naltrexone 50mg tablets daily, and the naloxone infusion was weaned off 48hrs later, without re-emergence of sedation or respiratory depression.
She was continued on oral naltrexone and followed up until 162 days post-administration of LAIB. Trace amounts of buprenorphine and norbuprenorphine were still detectable in her urine at 151 days post-administration of LAIB.

Effectiveness: This case of iatrogenic opioid overdose caused by LAIB was successfully managed with oral naltrexone.

Conclusion and Next Steps: Trace amounts of buprenorphine and norbuprenorphine were detectable in the patient's urine five months after administration of LAIB. The clinical significance of these levels of BPN and norBPN is unknown.
The optimal duration of oral naltrexone therapy in such situations is yet to be determined.

Implications for Practice or Policy: Although LAIB is considered very safe in the context of opioid dependence treatment, this case illustrates that it can cause life-threatening narcotisation in the opioid-naïve.
The fact that trace amounts of buprenorphine were detectable five months after one-off administration of LAIB has implications for clinical practice weaning clients off LAIB.

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