

Management of opiate dependence related to dihydrocodeine–sorbitol misuse

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Client 1

A 23-year-old man, with a history of depression and anxiety, seen in a Melbourne addiction outpatient service seeking treatment for benzodiazepine and opioid use.

During initial reviews, he was noted to be drinking a purple liquid from a water bottle that he reported was “vitamin water”. This was identified by the clinic’s peer worker as dihydrocodeine–sorbitol (Rikodeine, iNova Pharmaceuticals), which was confirmed by the patient. He described it as “lean” mixed with Sprite, and sometimes promethazine to enhance the subjective effects. He had used dihydrocodeine intermittently for the past seven years, predominantly to supplement oxycodone.

He was commenced onto long-acting injection buprenorphine (64 mg monthly) via titration of sublingual buprenorphine over four days and his non-prescribed opioid use ceased, as measured by self-report and urine drug screening.

Client 2

A 22-year-old man presented to the same addiction service for benzodiazepine and opioid use. He had a history of autism spectrum disorder, attention deficit/hyperactivity disorder, generalised anxiety disorder, and post-traumatic stress disorder.

In the previous two years, he had been using dihydrocodeine (about 600 mL per day, 114 mg oral morphine equivalent dose) obtained from pharmacies. He first used dihydrocodeine as a cough suppressant and noted its euphoric effects. He imbibed dihydrocodeine unmixed, drinking it as fast as possible to overcome the sweet taste. He used promethazine and benzodiazepines with dihydrocodeine to enhance the euphoric effects, and used low dose loperamide to prevent diarrhoea.

He was commenced on sublingual buprenorphine, reaching a stable dose of 18 mg daily, following which he was able to achieve sustained abstinence from opioids within a few weeks.

Figure 1. Photo provided by Patient 2 of empty Rikodeine bottles lined up by his parents when they confronted him about his use



Figure 2. Artwork from the single RIKODEINE by Muks Died and the album Rikodeine Dreams by the Reaper the Illest

DISCUSSION

Opioid-containing cough mixture is usually mixed with soft drink and/or alcohol and referred to as “lean”, “Melbourne lean”, “purple drank”, “purp”, “sizzurp”, “syrup”, or just Rikodeine. The contents of this drink are influenced by availability and culture. In many countries, lean refers to codeine–promethazine cough syrup with soft drink and/or alcohol, whereas in Australia, where codeine–promethazine is not available, lean refers to dihydrocodeine. Lean has been linked to rap subculture, with references to “Rikodeine” appearing in a number of songs by Australian rappers (e.g., “Chillinit and Huskii”, “Flocks Martana”, “Reaper the Illest”, “Death Co”, “Ghosttown Bunny”, “Muks Died”, and “Ezk & Deeegs”).

Following the rescheduling of codeine in February 2018, dihydrocodeine is the only remaining Schedule 3 opioid available over the counter. 100 mL of Rikodeine contains 19mg oral morphine equivalent dose).

Dihydrocodeine does not share metabolites with other commonly misused opioids and does not appear on standard urine drug screening even with gas chromatography–mass spectrometry. Nor can it be requested in most commercial pathology labs in Australia, as it is not an a S4308 drug.

In recent years, there have been media reports that dihydrocodeine misuse has increased in Australia, however evidence from a pharmacy sales register and the 2019 NDSHS did not show increased use of dihydrocodeine in 2018 and 2019 following the rescheduling of codeine.

CONCLUSION

These cases highlight an understudied opioid that can be legally obtained in Australia without a prescription and were successfully treated with opioid agonist pharmacotherapy.

Dihydrocodeine misuse may be missed in clinical practice due to lack of knowledge, as it was in the first patient. Awareness of dihydrocodeine use in the context of poly-opioid use can inform pharmacotherapy needs and enable provision of appropriate harm reduction information.

ACKNOWLEDGEMENTS

This poster and article was written collaboratively with the help of the clients discussed. We also thank Muks Died and Reaper the Illest for permitting the use of their artwork.

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