Case Studies from the Medical Examiner

Patient Death Reveals Concerning Prescribing and Dispensing Practices

Fall 2019

Case Studies from the Medical Examiner are a deliverable of the collaborative work of the Adult Inquest Review Committee. The College of Pharmacists of Manitoba, the College of Physicians and Surgeons of Manitoba, and the Chief Medical Examiner's Office work togeter to learn from deaths related to prescription drugs, focusing on opioids and other drugs of misuse. All dates, patient initials, names of pharmacies, and prescribers have been changed and de-identified to protect the identity of the patient and their family.

Introduction

AB is a 47-year-old female found dead in her home in July 2017. Several empty prescription bottles are found at the scene. She had a history of heavy cigarette smoking, but is otherwise healthy. An autopsy is performed and cause of death is identified as accidental carfentanil toxicity.

Discussion and Recommendations

AB passed away of a carfentanil overdose, but many concerning issues with the prescribing and dispensing of her prescription medications can be identified, including but not limited to the following factors.

AB was consistently early on refilling her medication, most of which are drugs with a high misuse potential. Prescribing practices should have included the following:

- **Controlled dispensing (weekly fills) should have been discussed with the prescribers of AB's medication and the patient.**
- **The prescriber should have been notified when known prescriptions of misuse were filled early and a plan determined between the prescriber, pharmacist and patient for using the medication appropriately.**
- **Documentation of the conversation and plan with the prescriber and patient to ensure continuity of care.**

Oxycodone was not present on AB's toxicology report. It is possible that this medication was being diverted; however, **consider providing naloxone kits to patients at risk of opioid overdose** (e.g., >90 mg morphine equivalent, multiple prescribers, frequent early refills, frequent emergency visits requesting opioids, history of opioid use disorder, concomitant CNS depressants, during tapering plan). Note that greater than normal doses of naloxone may be required to reverse an overdose for more potent opioids, like fentanyl and carfentanil.

Caution should be exercised, and frequent re-evaluations completed, when multiple CNS depressants and sedating medications are prescribed concurrently. Taking these medications together increases the risk of sedation, respiratory depression, and overdose. Patients should be counselled on these risks especially when combined with opioids, alcohol or street drugs.

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Toxicology Results

The toxicology report shows that diazepam and its metabolites (nordiazepam, temazepam, and oxazepam), quetiapine, and carfentanil were present. The level of diazepam and its metabolite nordiazepam were several times higher than the therapeutic range.

Drug	Level in blood (ng/mL)	Therapeutic Range (ng/mL)
Diazepam	3000*	200-650
Nordiazepam	3380*	400-1000
Temazepam	610	600-900
Oxazepam	332	200-500
Quetiapine	70	100-1000
Carfentanil	0.24 Lowest carfentanil calibrator is 0.05 ng/mL	N/A

*Above therapeutic range.

DPIN History Prior to Patient's Death

Generic Name	Date Dispensed	Strength	Quantity	Days Supply	Prescriber	Pharmacy
Diazepam	June 24, 2017 June 20, 2017 June 6, 2017 June 1, 2017 May 15, 2017 May 13, 2017	5 mg	63 42 63 63 90 90	21 14 21 21 30 30	Dr. BB Dr. LB	XY Pharmacy
Oxycodone HCl/ Acetaminophen	June 24, 2017 June 16, 2017 June 9, 2017 June 4, 2017 May 22, 2017 May 1, 2017	5/325 mg	126 84 60 84 84 126	21 14 6 14 14 21	Dr. BB Dr. DR Dr. KP	XY Pharmacy
Quetiapine	June 24, 2017 June 20, 2017 June 9, 2017 May 22, 2017	100 mg	42 28 28 42	21 14 14 21	Dr. BB	XY Pharmacy
Epinephrine	June 8, 2017	1:1000	1	1	Dr. BB	XY Pharmacy
Gabapentin	May 22, 2017	100 mg	60	20	Dr. KP	XY Pharmacy
Acetaminophen/ Caffeine/Codeine	June 20, 2017	300 mg/ 15 mg/ 8 mg	50	10	Pharmacist KL	XY Pharmacy

AB was prescribed an exempted codeine product by a pharmacist when she was already on multiple sedating drugs including a more potent opioid. She was also consistently early on filling drugs of abuse. **The patient should have been referred back to her prescriber to discuss her pain control options.**

These points should be considered when reviewing the medications prescribed and dispensed to your own patients and when assessing whether it is appropriate to prescribe an exempted codeine product.

It is a pharmacist's primary responsibility to ensure patient safety when dispensing a prescription medication. All members are reminded of their professional obligation to ensure that each prescription is reviewed thoroughly. Proper measures must be taken to address issues with appropriateness of drug therapy, drug interactions, therapeutic duplication, as well as correct dosage.

Additional Reading

1. The 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain. Available: https://healthsci.mcmaster.ca/npc/guidelines

2. Canadian Centre on Substance Use and Addiction (CCSA). Resources related to the opioid crisis. Available: https://www.ccsa.ca/opioid-resources

3. School of Pharmacy. University of Waterloo. Naloxone and Opioid Crisis Resources. Available: https://uwaterloo.ca/pharmacy/naloxone-and-opioid-crisis-resources