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Short Communication

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Cases of Poisoning: An Internist's Experience

Hector M Baillie MD FRCPC FACP

***Corresponding author:** Hector M Baillie MD FRCPC FACP

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I remember the day I received Brenee Roberts to our ICU, in Winnipeg. I was the senior resident on duty that night. She came in from the community hospital where she had spent the last few days: she was unconscious, intubated and sick.

Brenee was 19, from a native reserve. She had broken up with her boyfriend at Xmas, and was understandably depressed. She and her mother had sat around a warm fire on New Year's Eve, drinking alcohol, wrapped up against the bitter cold, sharing stories about what might have been. When Brenee woke up the next day, she felt ill, with nausea and a stomach ache. Shortly afterwards, she presented to Green Falls ER, with vomiting and weakness. She had blood in her emesis, and with alcohol ingestion in the mix, alcoholic gastritis was diagnosed. She was admitted for thiamine and fluids, Gravol and rest. The next day, elevated amylase and liver enzymes suggested further organ distress. When she had a seizure, a withdrawal event was the inevitable conclusion. But… she did not wake up. She was now in a coma, and the situation needed to be reassessed. In the Health Sciences Centre ICU, I sat down with her mother, to find out if something had been missed.

I asked, "*Did she take anything other than alcohol*?"
"*Not really," she replied, "except this…*"

She produced a small container of pills, empty, with a label clearly proclaiming PALAFER as its previous contents. Acute iron poisoning prompted us to x-ray her stomach (iron pills are radio-opaque): to start chelation therapy (deferoxamine): and to support her blood pressure with inotropes. Within a day, she lost all cardiovascular tone, even on Levophed, and she died on my watch. Six weeks later, her cousin Mary showed up in our ER. Upset with losing Brenee, she had overdosed – on PALAFER. Her stomach was promptly emptied, her gut flushed with Go-Lytely and iv Deferoxamine started (her urine turned pink). She was diagnosed early, and made a full recovery.

A few years later, I was working in a small community hospital in BC. I met Darma Kaur Singh, a 27-year-old East Indian lady, recently returned from Agra, in India. She wanted to show her new baby to family back home, and while she was there she sought treatment for chloasma, an unfortunate facial pigmentation that had evolved during her pregnancy. But now, she was ill. She was pale. She had abdominal pain. She was weak. The rest of her history was bland, and her examination unremarkable. Her hemoglobin was 108g/l (normocytic), her WC 6.9, and chemistry normal. Urinalysis, liver function, amylase and abdominal ultrasound were normal. I did a urine porphyrin, which was abnormal! A blood smear came back "large platelets, and RBC intracellular inclusions – does this patient have malaria?" The family were quick to comment "of course not." The diagnosis was elusive. A surgical consult assured a 'benign abdomen'. Again, I turned to her mother and said "Is she taking any other medications?" She produced a vial of brown, somewhat foul-smelling pills. She had been given these by an Ayurdevic doctor, for treatment of her cholasma. When assayed, they told us what was going on: lead poisoning. Her blood levels were high, her porphyrin levels were artifactual, her peripheral smear showed RNA inclusions, her anemia was predictable. No, she didn't have a blue line on her gums. I asked if I could learn the name of her Ayurvedic doctor, but was assured that her brothers 'would be dealing with him'. After calling Poison Control, I learned about lead paint and old lead pipes as historic culprits, as was occupational misadventure in battery workers. Now, Ayurvedic medicine. She was admitted, had EDTA and penicillamine chelation, and made a slow and uncomfortable recovery.

I'm not sure how many amitriptyline overdoses came to our small hospital ER. Usually a 15-year-old girl, jilted by her boyfriend or in a stressful conundrum, would help herself to her mother's Elavil. The history was usually straightforward, and as it was being related, she would become sleepy and hypotensive. She would be transferred up to ICU, intubated, monitored, and observed with conservative measures until she woke up a day or two later. Extubated, she would quickly perk up, and be discharged with psychiatry help set up in the community.

Not quite as easy would be the 19-year-old with a similar cry-for-help with acetaminophen overdose. Ipecac would be administered (assuming they were conscious and cooperative), followed by activated charcoal through a naso-gastric tube. N-acetyl cysteine (mucomyst) infusion would be administered in the ICU, and we kept our fingers crossed that she would stay on the right side of the nomogram's toxicity line. Family members were clearly distraught with the potential of watching fulminant hepatic failure, although none of my patients presented

that late. Poison Control Centres are invaluable in giving useful advice, and supporting smaller hospital ERs with advice and phone-connections to tertiary care specialists.

When I got a call to see Faye Mitchell, I was downtown shopping. The GP in the ER spluttered out "I've got this 45-year-old woman here, unconscious, and breathing like a racehorse. Can you come see her?" By the time I showed up, he had left for his golf game. I wasn't too impressed. She was in Bay One, breathing spontaneously, GCS4, heart rate 70, BP 140/90, temperature normal, saturation 100%. Boy, was she breathing heavily, with a rate of 30 or more. I remembered thinking, "This lady must be acidotic or something!" I had no history to go on. Her exam was otherwise normal. I checked the stat labs. CBC normal, sodium 140, potassium 3.6, Chloride 72, BUN 20, GFR 60, glucose 6.9, bicarb 4. EKG normal. The blood gases were helpful: pH 7.0, pO2 155, pCO2, HCO3 4 – on 2 litres nasal prongs oxygen. Severe metabolic acidosis with only partial respiratory compensation, and not diabetic ketoacidosis. The mnemonic 'MUDPILES' came to mind, and the ASA level – 3 times the toxic level – told me what I was dealing with. I gave bicarb and glucose, called Poison Control, and decided for her to be helicoptered out to tertiary care. Dialysis and close observation would bring about a satisfactory result. I had to judge whether or not I should intubate her for the transport. GCS<8 is a guideline, not a rule, and I was pretty sure I wouldn't be able to keep up with this lady's minute ventilation with an Ambu-bag. Later that day, her husband showed up, and said "*I told her she shouldn't be taking all those aspirin for ringing in the ears. Glad the neighbour found her on the floor: she could have gotten sick*!"

I think I've seen most common adult poisonings, from antifreeze to organophosphates, and all of the above. Fortunately, no arsenic or mercury, or Novichok! Each one brought me back to the basics (ABC), and taught me the value of Poison Control, and expert supportive care. The body is a complex machine, and it doesn't take much to throw a spanner in the works.