[ID-P#127] Decoding Ideal Homicidal Poison : Lessons learned from Crisis to Cure

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Introduction: Thallium, a colourless, odourless, water-soluble, and tasteless heavy metal, is known as an ideal homicidal poison due to its extreme toxicity. The lethal dose is estimated at 10–15 mg/ kg. We present a rare case of delayed presentation of thallium poisoning.

Case Details / Methods: A young driver accidentally consumed water from his employer's car. Over the course of a month, he developed progressively worsening tingling in his feet, which acutely worsened in the lower limbs over four days, affecting both proximal and distal muscles and limiting his ability to walk unaided. He also experienced patchy hair loss, leading to complete alopecia. Examination revealed Hertoghe's sign, reduced muscle power (4/5 in the upper limbs and 3/5 in the lower limbs), decreased tone, sluggish deep tendon reflexes, and absent plantar reflexes. Further inquiry revealed five suspicious deaths in the employer's family within seven days with suspected thallium overdose. Suspecting poisoning, thallium levels were tested, revealing a serum level of 253 mcg/L and a urine level of 346 mcg/L, indicating severe toxicity. Nerve conduction studies showed axonal polyneuropathy, while other blood tests were unremarkable. Late presentation hindered effective management, posing challenges. Based on EXTRIP (Extracorporeal Treatments in Poisoning) workbook guidelines, intermittent hemodialysis was initiated despite normal renal function. The patient underwent 12 sessions until serum thallium levels dropped below

0.1 mg/L. Patient showed gradual improvement in power and could walk with stick on discharge. His alopecia also improved on follow-up.

Conclusion: This case highlights that, even in late presentations, timely intervention with hemodialysis can lead to significant recovery in thallium poisoning. Rehabilitation (including electrical stimulation therapy and limb-strengthening exercises) may potentiate further recovery even in severe cases with timely and appropriate interventions.