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Morbidity and mortality review of methotrexate: the many lessons learnt

Jared Brown[1,2], Rose Cairns[1,2], Nicole Wright[1]
(1) NSW Poisons Information Centre, Sydney Children's Hospital Network, (2) Faculty of Medicine and Health, The University of Sydney

Objective: Methotrexate is a high-risk medication. This case illustrates the potential to learn from a tragic death resulting from behaviours relating to information transfer, prescribing, dispensing, help-seeking, adverse effect management and risks from outdated product information.

Case report: A 77 year old male, living alone with a history of chronic renal failure and previous use of methotrexate 9 years ago. He was prescribed oral methotrexate 5 mg daily for 5 days (dosing sourced from MIMS) for psoriasis by his GP, which the pharmacist queried but dispensed. No baseline blood tests were performed, the prescriber/dispenser were unaware of his history of renal failure. He developed severe rash, mouth ulcers and fever within a few days of starting therapy. The first call to the Poisons Information Centre (PIC) was in the evening of day 6, prompted by the Consumer Medicines Information. Advice was given to immediately present to hospital for urgent blood tests as he had signs of immunosuppression. On hospital presentation in the evening of day 7, he had myelosuppression and end stage kidney failure. The PIC toxicologist was consulted in the evening of day 8 and advised commencement of IV folinic acid and haemodialysis. He developed subsequent sepsis and worsening kidney failure and died on day 16 from complications of methotrexate toxicity.

Conclusion: A coronial inquest was conducted and PIC case review recommended the product information needs updating, baseline blood tests prompted in prescribing software, restricted prescribing to specialists, pharmacist's empowerment when clarifying dosage and access to senior support, prompter use of PIC and following advice could save lives.