

Propofol Induction Resulting in Green Urine Discoloration

David W. Barbara, M.D.,* Francis X. Whalen, Jr., M.D.

*Department of Anesthesiology, Mayo Clinic College of Medicine, Rochester, Minnesota
barbara.david@mayo.edu



A 54-YR-OLD woman with intractable leg pain secondary to lumbar stenosis elected to undergo L4–L5 decompressive laminectomy. General anesthesia was induced with fentanyl, lidocaine, and propofol (200 mg) and maintained with isoflurane and nitrous oxide. Tracheal intubation was facilitated with succinylcholine, and neuromuscular blockade was maintained with vecuronium. Within the first hour of the surgery, without any additional medications administered besides vancomycin, the urine color changed from yellow to green. The discoloration then resolved by the end of the 2.5-h operation. The patient was discharged home 2 days later without complication.

An uncommon side effect of propofol is green urine discoloration, which is reported most frequently after prolonged infusions.¹ The 4-sulfate and 1- or 4-glucuronide conjugates of 2,6-diisopropyl-1,4-quinol are re-

nally excreted and may rarely result in green urine discoloration, as seen in this case.² Alkalinization of the urine favors the formation of these phenolic metabolites. In addition, several colors of urine have been reported with propofol use, including pink, white, red, and brown.¹ Other causes of green urine discoloration include obstructive jaundice, *Pseudomonas* infection, Hartnup disease (abnormal amino acid transport), indicanuria, triamterene, amitriptyline, indomethacin, methocarbamol, promethazine, cimetidine, food coloring, Listerine mouthwash, Clorets mints, indigo dyes, and methylene blue. (Our patient was taking none of these medications).^{1,3}

This case demonstrates the pronounced urine discoloration that may occur after a single induction dose of propofol in a patient undergoing elective surgery. The transient presence of green urine that resolves after propofol discontinuation is benign and self-limited.¹ Unnecessary testing should be avoided.

References

1. Blakey SA, Hixson-Wallace JA: Clinical significance of rare and benign side effects: Propofol and green urine. *Pharmacotherapy* 2000; 20:1120–2
2. Simons PJ, Cockshott ID, Douglas EJ, Gordon EA, Hopkins K, Rowland M: Disposition in male volunteers of a subanaesthetic intravenous dose of an oil in water emulsion of ¹⁴C-propofol. *Xenobiotica* 1988; 18:429–40
3. Raymond JR, Yarger WE: Abnormal urine color: Differential diagnosis. *South Med J* 1988; 81:837–41