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## Case Report

# When urine goes green: A diagnostic puzzle in trauma critical care

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### ABSTRACT

In the intensive care unit (ICU), changes in urine color can result from various causes, such as medications, metabolic disorders, and infections, and are always a cause of concern to the treating physician. We managed a polytrauma patient in the ICU and noticed passing green color urine, which was associated with intravenous Propofol administered for sedation. There are various factors that cause changes in urine color. Green color urine induced by Propofol is a rare and remarkable side effect. Propofol metabolites, such as the 4-sulfate and the 1- or 4-glucuronide conjugates of 2, 6-diisopropyl-1, 4-quinol, are excreted in the urine after undergoing glycoconjugation in the liver. The green color of urine is attributed to the presence of these phenolic metabolites in the urine. Phenolic metabolites of Propofol are produced in the liver and excreted in the urine, resulting in a green discoloration. Prompt recognition of this effect can help avoid unnecessary laboratory investigations.

**Keywords:** Critical care, Green, Polytrauma, Propofol, Urine

## INTRODUCTION

Several factors, such as medications, dyes, ingestion of substances, infections, metabolic disorders, and structural abnormalities, can lead to urine discoloration in the intensive care unit (ICU).<sup>1</sup> Investigating and correcting the underlying causes is important, as urine discoloration may indicate serious underlying disorders. Propofol is widely used in operating rooms as an induction and maintenance agent and as a sedative agent in the ICU. It is favored for its rapid onset and short duration of action. We present a case of a polytrauma patient managed in the ICU, where Propofol was used as the sedative. The patient's urine turned green as a result of the propofol infusion.

## CASE REPORT

**Patient information:** A 31-year-old male was brought to our emergency department following a road traffic accident.

**Clinical findings:** On primary survey, the patient was found to have a threatened airway and was immediately intubated and placed on mechanical ventilation. He had a respiratory rate of 24 per minute and an oxygen saturation of 98%. His heart rate was 104 beats per minute, and his blood pressure was 136/70 mmHg. The Glasgow Coma Scale (GCS) score was 7/15. The patient was fully exposed, with measures taken to prevent hypothermia.

**Diagnostic assessment:** Non-contrast computed tomography (NCCT) of the head revealed frontal contusions, while contrast-enhanced computed tomography (CECT) of the torso showed multiple right-sided rib fractures with hemothorax.

**Therapeutic intervention and follow-up:** The patient was admitted and transferred to the ICU for further intensive care monitoring and mechanical ventilation. In the ICU, sedation was initially maintained with the midazolam infusion. After 48 hours, sedation was switched to propofol infusion at 4ml/kg/hour. Following 48 hours of continuous propofol use, it was noticed that the patient's urine turned green [Figure 1]. A thorough evaluation revealed no signs or symptoms suggestive of sepsis. Liver function tests, renal function tests, complete hemogram, and urine microscopy were normal. Urine analysis showed a urine pH of 5.9, specific gravity of 1.019, and negative bilirubin. With all investigations within normal limits and no evidence of sepsis, the green color of urine was attributed to propofol infusion. Propofol was discontinued, and the urine color turned to normal within 24 hours. The patient was extubated after 7 days, shifted to the ward, and discharged from the hospital 20 days after admission. He remains on routine follow-up and is doing well.



**Figure 1:** Grass green urine in the urine-collection bag

## DISCUSSION

Changes in urine are common in the intensive care setting, as various factors such as medications (amitriptyline, promethazine, cimetidine, metoclopramide, etc), infectious diseases like pseudomonas urinary tract infection, certain dyes (such as methylene blue), and foods can alter urine color. It is important for the treating physician to recognize these changes in urine and manage them appropriately. Propofol-induced green color urine is a rare side effect, particularly given the widespread use of Propofol for the induction and maintenance of general anesthesia, as well as

its use as a sedative in ICU patients. Propofol metabolites such as the 4-sulfate and 1- or 4-glucuronide conjugates of 2, 6-di-isopropyl-1, 4-quinol, are excreted in the urine after undergoing glucuronidation in the liver.<sup>2,3</sup> The green color of urine is believed to result from these phenolic metabolites. Most reported cases in the literature suggest that the green color of urine typically occurs after long-term propofol infusion.<sup>3-5</sup> However, even a single bolus dose of Propofol can cause green-colored urine.<sup>6</sup> Therefore, urine discoloration does not necessarily correlate with the total dosage or duration of infusion.

Shioya *et al.*<sup>5</sup> suggested that green urine resulting from propofol use is associated with extrahepatic glucuronidation primarily in the kidneys due to impaired enterohepatic circulation from constipation and reduced peristalsis. Blakey and Hixson-Wallace<sup>7</sup> reported that the incidence of green urine with propofol infusion is less than 1%. In the present case, the green urine appeared 48 hours after starting the propofol infusion and resolved within 24 hours after the discontinuation of the infusion. Our patient had no metabolic abnormalities that could have caused the urine discoloration. Previous case reports described urine discoloration occurring between two hours and two days after discontinuation of Propofol.<sup>2,8,9</sup> Therefore, when green urine is observed, it is important to investigate the cause and carefully review the patient's medication history to avoid unnecessary concerns or laboratory investigations.

## CONCLUSION

Green discoloration of urine is a rare side effect of Propofol. The phenolic metabolite produced by the liver during propofol metabolism is excreted in urine, changing it to green. Prompt recognition of this phenomenon may prevent unnecessary laboratory investigations.

**Availability of data and material:** Data are available with the corresponding author upon reasonable request.

**Author contributions:** PMUDD: Study conception, drafting and design of the article, management of the patient; BJ: Drafting of the article, data collection, and critical revision. SG: Drafting of the manuscript and management of the patient.

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## REFERENCES

1. Bowling P, Belliveau RR, Butler TJ. Intravenous medications and green urine. *J Am Med Assoc.* 1981;246:216.
2. Lee JS, Jang HS, Park BJ. Green discoloration of urine after propofol infusion. *Korean J Anaesthesiol.* 2013;65:177–9.
3. Bodenham A, Culank LS, Park GR. Propofol infusion and green urine. *Lancet.* 1987;2:740.
4. Ku BD, Park KC, Yoon SS. Dark green discoloration of the urine after prolonged propofol infusion: a case report. *J Clin Pharm Ther.* 2011;36:734–6.
5. Shioya N, Ishibe Y, Shibata S, Makabe H, Kan S, Matsumoto N, et al. Green urine discoloration due to propofol infusion: a case report. *Case Rep Emerg Med.* 2011;2011:242514.
6. Barbara DW, Whalen FX Jr. Propofol induction resulting in green urine discoloration. *Anesthesiology.* 2012;116:924.
7. Blakey SA, Hixson-Wallace JA. Clinical significance of rare and benign side effects: Propofol and green urine. *Pharmacotherapy.* 2000;20:1120–2.
8. Rawal G, Garg N, Wani UR, Yadav S. Green urine: a rare benign side effect of Propofol. *Int J Med Res Rev.* 2015;3:136–8.
9. Pedersen AB, Kobborg TK, Larsen JR. Grass-green urine from propofol infusion. *Acta Anaesthesiol Scand.* 2015;59:265–7.

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