

IMAGES IN CLINICAL MEDICINE

## Green Urine



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A 76-YEAR-OLD MAN WITH RENAL FAILURE FROM NEPHROANGIOSCLEROSIS received a kidney transplant from a deceased donor. The transplant was functioning well when the patient underwent a radical laryngopharyngoesophagectomy, with colopharyngeal anastomosis, for esophageal carcinoma. He was transferred to the intensive care unit 5 days after surgery, where his urine was noted to be green (right-hand specimen, next to a normal urine specimen), with unremarkable sediment and a creatinine level of 1.4 mg per deciliter (123.8  $\mu\text{mol}$  per liter). Owing to the presence of mucous drainage from the proximal surgical wound, the patient had received an injection of methylene blue (also called aniline violet and tetramethylthionine chloride) through his nasogastric tube, to look for a possible fistula; a fistula was found. Methylene blue is a water-soluble dye that can be used to assess whether a fistula is present or used as a medication. It is filtered by the kidneys and has no pathologic effects but may cause the urine to have a bluish or greenish hue. Once the dye has been passed (after 2 days, in this patient), the color of the urine returns to normal. The patient had no clinical problems after the dye was passed.

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