

CLINIPICS

Intraoperative multi-colored urine

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A 78-year-old lady underwent extensive primary de-bulking surgery for ovarian cancer. Intraoperatively, blue-green colored urine was observed in the urinary bag (Figure 1). There was a clear demarcation of the coloured urine sitting on top of the previously passed urine. On this occasion, the blue green discoloration was caused by instillation of methylene blue into the ureter by the surgeon to monitor for ureteral injury. The colour of patient's urine returned to normal after six hours.

Methylene blue is moderately soluble in water and has a specific gravity of 1.335. Hence it is rare to see the layered discoloration. True blue urine is unusual as blue pigments combine with urochrome, the major contributor to urine's normal yellow hue, to create the green color. The figure shows the three coloured layers - a top layer which is predominantly blue, due to methylene blue solution unmixed with urine, a middle layer of green caused by mixing of methylene blue with urine and a bottom layer of normal unmixed urine. Phenol-containing drugs such as propofol can cause green discoloration of urine. Although a single dose of propofol has been reported to cause green urine, this was considered unlikely in our case as the surgeon had informed us that he was instilling methylene blue.

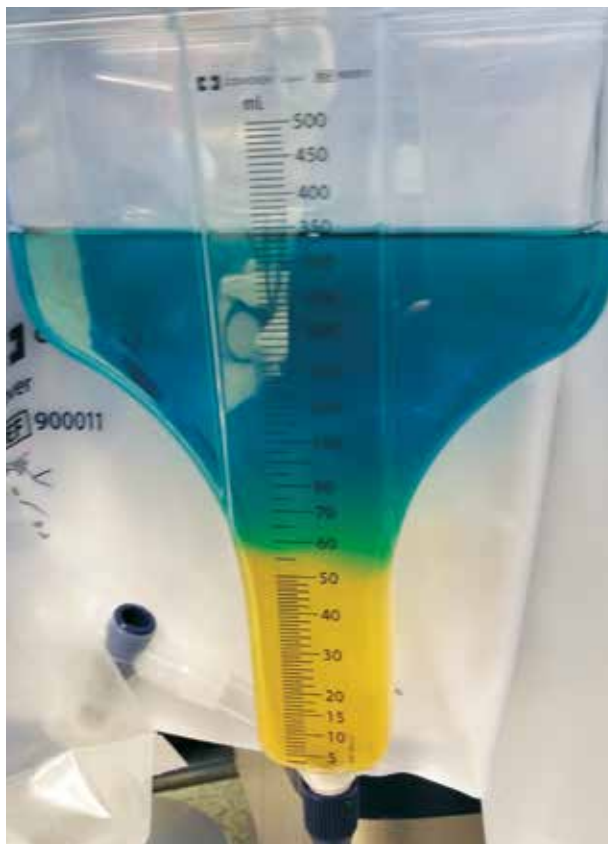


Figure 1: Urine bag showing three layers of different colored urine