

## Unexpected Urine Drug Testing Results in a Hospice Patient on High-Dose Morphine Therapy

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### CASE DESCRIPTION

A 41-year-old African-American woman was admitted to an inpatient hospice facility with advanced, inoperable cervical cancer. The patient was experiencing severe pain secondary to extensive local tumor invasion, osseous pelvic metastases, and sacral decubitus ulcers. Her pain was treated with an escalating-dose schedule of morphine sulfate until satisfactory analgesia was achieved with stable doses of a combination of controlled-release morphine sulfate (MSContin®, Purdue Pharma LP) 400 mg orally every 8 h, and immediate-release morphine sulfate (MSIR®, Purdue Pharma LP), 180 mg orally every 4 h, as needed for breakthrough pain (average 2 to 3 doses per day). The patient experienced several episodes of life-threatening vaginal bleeding for which she was hospitalized for red blood cell transfusions and bilateral hypogastric artery embolizations. She spent the final 12 weeks of her life exclusively on the inpatient hospice unit. Approximately 3 weeks before her death, the patient underwent urine specimen collection and analysis of morphine and metabolites. GC-MS analysis revealed the presence of morphine as well as small quantities of hydromorphone.

#### Questions to Consider

- Why do physicians use urine drug monitoring with patients receiving opioid analgesics?
- What are the normally expected metabolites of morphine?
- Had this patient on high-morphine therapy been abusing hydromorphone?
- In the context of a hydromorphone-positive urine drug test in a patient administered only morphine, how might one distinguish between morphine adherence and unauthorized hydromorphone administration?

## Final Publication and Comments

The final published version with discussion and comments from the experts will appear in the October 2009 issue of *Clinical Chemistry*. To view the case and comments online, go to <http://www.clinchem.org/content/vol55/issue10/> and follow the link to the Clinical Case Study and Commentaries.

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