

Shih-Wei Liu, MD
Chun-Chi Lin, MD
Chorng-Kuang How, MD

From the Emergency Department (Liu, How) and Division of Clinical Toxicology, Department of Medicine (Lin), Taipei Veterans General Hospital, Taipei, Taiwan; and the National Yang-Ming University School of Medicine, Taipei, Taiwan (Liu, Lin, How).

0196-0644/\$-see front matter
Copyright © 2008 by the American College of Emergency Physicians.
doi:10.1016/j.annemergmed.2008.10.031



Figure. Black urine in Foley bag. Used with permission of Chun-Chi Lin, Division of Clinical Toxicology, Department of Medicine, Taipei Veterans General Hospital, Taipei, Taiwan.

[Ann Emerg Med. 2009;53:836.]

A 45-year-old man presented to the emergency department at Veterans General Hospital, Taipei, Taiwan, with shortness of breath after unknown chemical solution ingestion. The medical history was remarkable only for chronic alcoholism. He had a decreased consciousness level and was cold and clammy. A “medicinal” odor was smelled. Initial treatment included tracheal intubation, gastric lavage, activated charcoal administration, and aggressive fluid resuscitation. When a urinary catheter was placed, black urine was drained (Figure).

*For the diagnosis and teaching points, see page 843
To view the entire collection of Images in Emergency Medicine, visit www.annemergmed.com*

IMAGES IN EMERGENCY MEDICINE

(continued from p. 835)

DIAGNOSIS:

Methyl-methacrylate (Lucite) sphere in the right extrapleural space and left pleural effusion. Before the discovery in the 1950s of drugs effective against *Mycobacterium tuberculosis*, collapse therapy was the mainstream of treatment of pulmonary tuberculosis because it was shown effective in stopping the disease in an individual. In 1881, Carlo Forlanini of Turin, Italy, introduced the use of artificial pneumothorax.¹ As the method gained in popularity, many means to create and maintain the collapse were applied: artificial pneumothorax with air refills, phrenic nerve crush, thoracoplasty, and extrapleural plombage. In the latter case, many available materials were used: fat, paraffin wax, bone, gauze sponge, silk, gelatin, rubber balloons, oil and, as in our case, Lucite balls.² The occurrence of long-term complication of these treatments is debated.²⁻⁴ In any case, many patients remained asymptomatic but for a certain degree of respiratory failure. Since the 1950s, the use of collapse therapy (and plombage) declined steadily. A young physician may not have encountered such a patient in his practice. Our patient eventually died in the pulmonary ward a few days later of respiratory failure.

REFERENCES

1. Lawrence G. Artificial pneumothorax boxes. *Lancet*. 2002;360:1105.
2. Weissberg D, Weissberg D. Late complication of collapse therapy for pulmonary tuberculosis. *Chest*. 2001;120:847-851.
3. Massard G, Thomas P, Barsotti P, et al. Long-term complications of extrapleural plombage. *Ann Thorac Surg*. 1997;64:220-224.
4. Pommerantz M. Invited commentary to: Massard G, Thomas P, Barsotti P et al. Long-term complications of extrapleural plombage. *Ann Thorac Surg*. 1997;64:225.

IMAGES IN EMERGENCY MEDICINE

(continued from p. 836)

DIAGNOSIS:

Cresol intoxication. The urine levels of para-cresol, meta-cresol, ortho-cresol, and phenol were 10,186, 11,015, 388, and 101 mg/g creatinine, respectively, at 12 hours after ingestion. The methemoglobin level was 1.1%, with a hemoglobin concentration of 14.8 g/dL. His hospitalization course was complicated by pneumonia, gastric corruption, and liver and renal function impairment. He recovered uneventfully after intensive supportive care.

Cresol, a commonly used household disinfectant worldwide, was the original active ingredient in the American brand Lysol. It may cause gastrointestinal corrosive injury, central nervous system and cardiovascular disturbances, and renal and hepatic injury after intoxication.¹ When ingested, cresol is excreted in the urine and renal damage is possible. The black urine is a prominent feature of cresol intoxication. Other different diagnoses of black urine include hemoglobinuria, myoglobinuria, alkaptonuria, melanuria, porphyrinuria, and tyrosinuria. In addition, some medications including L-dopa, methyl-dopa, chloroquine, primaquine, furazolidone, metronidazole, nitrofurantoin, cascara/senna laxatives, methocarbamol, and sorbitol may cause black urine.^{2,3}

Initial management includes gross decontamination, activated charcoal use, and case-based decision for gastric lavage. Medical treatment of cresol intoxication is primarily supportive to maintain cardiovascular and respiratory functions. Hemodialysis is indicated in acute renal failure.^{1,4} Benzodiazepine and anticonvulsants can be used if seizures occur.

REFERENCES

1. Wu ML, Tsai WJ, Yang CC, et al. Concentrated cresol intoxication. *Vet Hum Toxicol*. 1998;40:341-343.
2. Slawson M. Thirty-three drugs that discolor urine and/or stools. *RN*. 1980;43:40-41.
3. Noll WW, Glass DD. Causes of dark urine. *JAMA*. 1980;243:2398.
4. Lin CH, Yang JY. Chemical burn with cresol intoxication and multiple organ failure. *Burns*. 1992;18:162-166.