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Acute iron intoxication: change in urine color during chelation therapy with deferoxamine

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Fig. 1 Urine sample with normal color before chelation therapy (*left*) and red–orange urine during deferoxamine treatment (*right*), indicating iron-chelation products

A 21-year-old woman presented to the emergency department 8 h after the ingestion of 5,100 mg of ferrous sulfate (110 mg/kg) in a suicide attempt.

At admission she was hemodynamically stable without pathologic findings at examination. Laboratory tests showed a mild decrease in prothrombin time and a compensated metabolic acidosis with normal renal function and liver enzymes. An abdominal x-ray showed normal findings without visible radiopaque pills.

Initial serum iron levels were 300 μg/dL. The patient was transferred to the intensive care unit for monitoring. Chelation therapy with deferoxamine was then started at 15 mg/kg/24 h and the patient's urine turned a red–orange color after starting this treatment (Fig. 1). After 24 h of treatment serum iron levels decreased to 87 μg/dL and chelation therapy was withdrawn. The patient remained clinically stable with no medical complications. She was discharged from hospital 5 days after admission.

Deferoxamine is a specific iron chelator that binds ferric iron forming a water-soluble compound that is rapidly excreted by the kidney, causing a vin rosé discoloration to the urine. It is considered the drug of choice for the treatment of significant iron intoxication. Change in urine color may confirm the effectiveness of this antidote.

Ethical standards No experimental studies were performed on the patient. The content of this manuscript has been published after obtaining the patient's informed consent and protecting the patient's privacy.

Conflicts of interest The authors report no conflicts of interest.