CASE DESCRIPTION

A 7-month-old boy was brought to the emergency department for persistent cough and difficulty in breathing. On the second day of admission, his urine was analyzed to rule out urinary tract infection. Chemical analysis of the sample was unremarkable and sediment microscopy did not show any abnormalities except for dense dark crystals (Fig. 1). Individual crystals were needle shaped, while aggregated crystals had a starburst shape.

QUESTIONS

1. What is a most common cause of unexpected urine crystals?
2. What is the significance of the crystals observed in this case?

The answers are on the next page.
Unexpected urine crystals are often due to prescribed drugs. The patient had been receiving ceftriaxone for 2 days. Ceftriaxone has been recognized as potentially lithogenic (1); calculi are composed mainly of ceftriaxone, suggesting that calculi form by drug crystallization (2). Two studies have found a frequency of ceftriaxone stones of 1.4%–7.8% in patients receiving a standard course of this drug (3, 4).

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References