

## Discrepant Results of Serum Creatinine and Cystatin C in a Urological Patient

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### CASE DESCRIPTION

A 3-month-old boy was seen for routine follow-up at the pediatric nephrology outpatient clinic. He had been diagnosed as having Sotos syndrome manifesting with craniofacial dysmorphism, feeding difficulties, pulmonary artery stenosis, and atrial septal defect, as well as complex urological abnormalities. He had bilateral hydronephrosis with megaureter and grade V vesicoureteral reflux to the left and grade I to the right kidney. At the age of 6 weeks, static renal scintigraphy using DMSA (<sup>99m</sup>Tc-dimercaptosuccinic acid) to assess renal morphology, structure, and function had demonstrated almost symmetrical kidney function (split kidney function left 44% vs right 56%) without cortical scarring.

While his baseline serum creatinine had been 40 µmol/L (0.45 mg/dL), a sudden rise to 69 µmol/L (0.79 mg/dL) was noted. Urinary tract infection was ruled out, as was dehydration. On renal ultrasound, dilation of the right collecting system and ureter had increased significantly and a novel fluid collection at the upper pole was noted, which prompted an MRI study (Fig. 1). In addition to serum creatinine, cystatin C measurement was ordered and was within the reference interval for age (1.13 mg/L).

### QUESTIONS TO CONSIDER

- Does the rise in creatinine indicate deterioration of kidney function?
- How do you explain the discrepancy between the 2 markers of kidney function?
- What is the nature of the fluid collection at the right upper pole?
- What test could be used to determine the nature of fluid collection?



**Fig. 1.** Abdominal MRI.

Bilateral hydronephrosis and fluid collection at right upper pole (asterisk).

### Final Publication and Comments

The final published version with discussion and comments from the experts will appear in the April 2017 issue of *Clinical Chemistry*. To view the case and comments online, go to <http://www.clinchem.org/content/vol63/issue4> and follow the link to the Clinical Case Study and Commentaries.

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