Transgender Man Being Evaluated for a Kidney Transplant

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CASE DESCRIPTION

A 33-year-old female-to-male transgender individual (height, 5’1”; weight, 135 lb) presented to emergency care with acute otitis media and hypertension (170/110). Currently prescribed medications include daily atorvastatin and intramuscular testosterone cypionate injections (100 mg/week). The patient refused admission because of discrimination concerns as a transgender man, but presented to his primary care physician the following morning. Laboratory results revealed a urine total protein concentration of 199.5 mg/dL (random collection, 0.0–10.0 mg/dL) and an estimated glomerular filtration rate (eGFR) of 31 mL/min/1.73 m² if assessed using the male equation or 23 mL/min/1.73 m² if assessed using the female equation. On the basis of male categorization, the patient was diagnosed with stage 3 chronic kidney disease (CKD3), prescribed carvedilol, and strongly encouraged to discontinue testosterone, to which he agreed. The patient transferred to an alternate institution; here testosterone administration was restarted, lisinopril was prescribed, and reduction in protein and sodium intake was encouraged. Incidentally, the patient had maintained a vegan diet for >10 years.

Renal transplant evaluation was initiated several months later. Corresponding male eGFR was 24 mL/min/1.73 m², but the corresponding female eGFR was 18 mL/min/1.73 m². Urine protein excretion was 3 g/day. Because transplant candidates require a GFR <20 mL/min/1.73 m² (1) and because the patient’s male-calculated eGFR was above the cutoff, he was not listed. An evaluation 4 months later documented an eGFR of 21 and 15 mL/min/1.73 m² for corresponding male and female levels, respectively. In the patient’s medical chart, only the corresponding male eGFR was documented, and the medical care team did not consider that the sex-based equations will lead to a different interpretation. All eGFR values were calculated using the Modification of Diet in Renal Disease study equation.

QUESTIONS TO CONSIDER

- What genetic, biological, and environmental factors can influence creatinine concentration and lead to subsequent uncertainty in the eGFR interpretation?
- Does exogenous testosterone administration influence kidney function?
- What other laboratory results may be difficult to interpret in transgender patients?
Reference

Final Publication and Comments
The final published version with discussion and comments from the experts will appear in the November 2017 issue of Clinical Chemistry. To view the case and comments online, go to http://www.clinchem.org/content/vol63/issue11 and follow the link to the Clinical Case Study and Commentaries.

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