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)[3] of 31 mL/min/1.73m^2 if assessed using the male equation or 23 mL/min/1.73m^2 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/1.73m^2, but the corresponding female eGFR was 18 mL/min/1.73m^2. Urine protein excretion was 3 g/day. Because transplant candidates require a GFR <20 mL/min/1.73m^2 (*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/1.73m^2 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?

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Reference
1. University of Pennsylvania. https://www.pennmedicine.org/~/media/documents%20and%20audio/patient%20guides%20and%20instructions/transplant/kidney_transplant_selection_criteria.ashx?la=en (Accessed October 2016).

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.

Educational Centers

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