Live Kidney Donors with Microscopic Hematuria

Author: C. Hartono, MD

Editor: D. Lapointe Rudow, DNP

ISSUE

Should a potential live kidney donor with persistent microscopic hematuria be allowed to donate?

DATA

A potential kidney donor with persistent microscopic hematuria, variably defined as > 3 or > 5 RBCs per high power field, requires further evaluation prior to kidney donation, including urine cytology, renal/bladder imaging and cystoscopy, to rule out urological malignancy, infections (including tuberculosis) and stone disease.

Glomerular diseases should also be considered in potential donors with microscopic hematuria when obvious anatomic or infectious etiologies are not present.

Thin basement membrane nephropathy is a common cause of microscopic hematuria, affecting up to 1% of the population (1). Thin basement membrane nephropathy, while generally benign, is associated with an increased risk for CKD when there is proteinuria or a family history of CKD (2). Other glomerular pathologies to consider include Alport syndrome and IgA nephropathy (3). An important consideration when evaluating a potential donor is that in contrast to the favorable short-term prognosis of isolated microscopic hematuria, the lifetime risk of ESRD is increased (4). The adjusted hazard ratio for ESRD was 18.5 in individuals with persistent asymptomatic microscopic hematuria during 22 years of follow-up in a study with over 1.2 million participants (4).

RECOMMMENDATION

Potential kidney donors with persistent microscopic hematuria require further evaluation prior to approval for kidney donation. Those with a negative urological workup may need a kidney biopsy to exclude glomerular disease.

References

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3. Gale DP How benign is hematuria? Using genetics to predict prognosis. Pediatr Nephrol 28:1183-1193, 2013.

4. Vivante A, Afek A, Frenkel-Nir Y, et al. Persistent asymptomatic isolated microscopic hematuria in Israeli adolescents and young adults and risk for end-stage renal disease. JAMA 306:729-736, 2011.

Note: The recommendations in these chapters are the opinions of the Living Donor Community of Practice of AST. They are not meant to be prescriptive and opinions by other groups or institutions may be equally valid.