Why is this study important?

The findings by He *et al.* uncover a novel role for renal macrophages in maintaining tissue homeostasis and proper kidney function: the prevention of nephrolithiasis in mice. The authors did not translate their findings into humans, arguing that this new function could not have been discovered by examining kidney biopsies, because these usually do not capture the medulla, at least not the papillary parts where osmolarity is highest. Nevertheless, a recent spatial transcriptomics study examined renal papillary biopsies during elective percutaneous nephrolithotomy in patients with stone disease[9] and found an activated macrophage fingerprint in the human papillae, which nicely supports the present findings. Future translational research might investigate nephrectomy specimens or kidney preimplantation biopsies. Also, it would be interesting to examine urine samples from humans for the presence of macrophages carrying crystals in future translational studies, to support the notion that renal macrophages perform similar functions in humans. However, all these descriptive approaches would not resolve how effective macrophages are at removing crystals compared with other antilithiatic strategies intrinsic to the kidney, like citrate excretion or production of uromodulin. This might be possible by studying CX_3CR_1-deficient humans, although so far only polymorphisms have been reported, and it is unclear whether renal MNPs are CX_3CR_1 dependent in humans as they are in mice.

In conclusion, the study by He *et al.* profoundly advances our understanding of kidney physiology, immunology, and nephrolithiasis elimination, and will stimulate further research in this neglected area of research.

DISCLOSURE

All the authors declared no competing interests.

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translational science

Identification of the gut microbial enzyme turning the urine yellow

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For ages, the transparency, smell, color, and even taste of urine have been scrutinized by physicians and laypeople willing to understand disease and to make a diagnosis. Some of these associations have stood the test of time. The color of urine, in particular, is still