

Changes in Epithelial Cells

To the Editor:

Sharma, Lovell, Wiegmann, and Savin, in their recent article published in *JASN*, beautifully demonstrated changes in the cytoskeleton of glomerular epithelial cells induced by vasoactive substances (1). They suggested that these changes might have an effect on the hydraulic permeability of the glomerular capillary wall through modification in foot process (and slit pore) morphology.

I would agree the epithelial cell is a determinant of the ultrafiltration coefficient. Although correlations between measures of filtration and podocyte structure exist in glomerular injury, the same cannot be said in physiologic states (2-4). Only one study has shown a reduction in filtration slit frequency with angiotensin II; most of the other results have been negative (5). Alternatively, Racusen, Prozialeck, and Solez suggested in 1984 that changes in ultrafiltration may occur as the glomerular epithelial cell body spreads itself over the podocyte processes (6). This could hinder local filtration without changing podocyte-process morphology.

It is extremely difficult to quantitate such a change by transmission and/or scanning electron microscopy. It would be even more difficult to demonstrate heterogeneous filtration rates over different areas of a single glomerular capillary. Nonetheless, demonstrated changes in the cytoskeleton could explain changes in hydraulic permeability, either by the hy-

pothesized mechanism of Sharma *et al.* or by that proposed by Racusen *et al.*

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