Acute renal failure in the nephrotic syndrome

Sir,
In their article in Nephrology Dialysis Transplantation [1], discussing the pathophysiology of acute renal failure in the nephrotic syndrome, Koornans et al. (p. 223) mention that obliteration of epithelial slit pores, as visualized by electron microscopy, is not correlated with the reduction in glomerular filtration rate (GFR) in humans. However, in a previous
article [2], we showed an inverse correlation between foot process fusion and GFR, filtration fraction and serum albumin concentration. We also found an inverse correlation between foot process fusion and epithelial slit pore length. Finally, we reported similar findings of an inverse borderline correlation between total slit pore length and GFR in an experimental rat model of the nephrotic syndrome [3].

Thus it has been shown in children with minimal change nephrotic syndrome, and in rats with experimental nephrosis, that the reduction in the total length of glomerular epithelial slit pores due to the fusion of the foot processes results in reduced glomerular capillary permeability to water and small solutes, and hence in a reduction of glomerular filtration rate.

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