Letter and Reply

On the methodology for measuring thickness of glomerular basement membranes

Sir,

We read with interest the multicentre Italian study by Frasca et al. [1] that confirms that a proportion of patients (6/51) with thin glomerular basement membrane disease (TBMD) have an underlying type IV collagen mutation that may not always be benign.

In the ‘subjects and methods’ section they state that the measurements of glomerular basement membrane was performed by the method published by us [2]. However, our work involved a comparison between the Orthogonal Intercepts Method (OIM) and our modification of direct measurement (MDM) method, applying it on two glomeruli rather than one. Frasca et al. [1] do not state which of the two (or both) methods was used in their study. We found that although the MDM method is acceptable for diagnosing TBMD, on average the values were about 80 nm less than those obtained with OIM. As one of the patients described by Frasca was only 8 years old we would also remind readers that basement membrane thickness is age related [3].

5/18 patients with suggestive family histories or 6/51 in the overall group had collagen IV mutations suggesting that other genes involved in the production or turnover of glomerular basement membrane are likely to be equally important in the pathogenesis of this variant/disease.

It would also be interesting to know if any of the ultrastructural lesions correlated with collagen IV mutations.

Conflict of interest statement. None declared.

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Reply

Sir,

In our study on thin glomerular basement membrane disease (TBMD) we used the modified direct measurement method as proposed by Das et al. [1]. We are aware that by this method the authors found values that were on average about 80 nm less than those obtained by using the Orthogonal Intercepts Method. Thus, as specified in our report, the three laboratories involved in the study had their own standards for ‘normal’ GBM thickness to be used as a control measurement. We did not find any correlation between the presence of collagen IV mutations and the ultrastructural appearance of the GBM, which was characterized by a uniform thinning without additional alterations, and represented the main criteria for inclusion in the study.

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Letters

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Haemodialysis catheter-associated infection: common pathogens in unusual places

Sir,

For many patients with ESRF intravenous catheters are an essential route of vascular access for haemodialysis treatment. In the United Kingdom such patients constitute up to 17% of the dialysis population [1]. In this context rare infectious diseases may be encountered in the dialysis unit. We describe two previously unreported infectious complications of tunnelled dialysis catheters.

Case 1. A 57-year-old man presented with ESRF due to diabetes mellitus. His peripheral vasculature was
unsuitable for the creation of an arterio-venous fistula (AVF) or implantable graft. A tunneled dialysis catheter (Double-lumen PermCath) was inserted and haemodialysis commenced. Two months later he was admitted with pyrexia, rigors and a marked inflammatory response. He also complained of pain at the left sterno-clavicular joint. Repeated blood cultures, from separate sites, grew Staphylococcus epidermidis. Spiral CT scanning demonstrated evidence of osteomyelitis and clavicular destruction. The catheter was removed and peritoneal dialysis commenced. Antibiotic therapy with vancomycin and rifampicin was continued for a 6 week period with resolution of symptoms and inflammatory markers.

Case 2. A 62-year-old Yemeni man presented to our emergency department with ESRF. Owing to symptomatic uraemia a tunneled catheter was inserted and dialysis commenced. Three months later the patient developed high fevers, with raised inflammatory markers. Repeated blood cultures were negative. Despite replacement of the line and empirical antibiotic therapy he developed a shallow 4 cm ulcer at the catheter exit site. The catheter was removed, and the ulcer biopsied. The culture grew fully sensitive Mycobacterium tuberculosis. Clinical and radiological assessment found no other sites of tuberculosis. After initiating treatment and replacing the catheter, the ulcer healed and the patient improved.

Discussion. Infection related to intravenous catheters remains a major source of morbidity and mortality in patients treated with chronic haemodialysis [2]. Osteomyelitis complicates up to 14% of these cases [3]. S. epidermidis is a common cause of bacteraemia in renal units [1]. In Case 1 we report sternoclavicular osteomyelitis—a previously unreported but serious complication of what is considered to be a benign infection [4]. The incidence of M. tuberculosis has increased by 11% nationally (over 5 years) and by 71% in London (over 10 years) [5]. Chronic renal failure is known to cause immune dysregulation and is a risk factor for developing active TB. However, there are no reports of M. tuberculosis causing catheter exit site infection in this or other patient groups. Despite advances in renal replacement therapy there is no intervention proven to improve the immune status of dialysis patients or mitigate the infection risks associated with long-tem catheters. AVFs remain the gold standard for dialysis access due to improved patient survival [6]. With increasing use of tunnelled lines in immunocompromised subjects unusual infections are likely to be a growing phenomenon in dialysis units.

Conflict of interest statement. None declared.