Aciclovir and valaciclovir neurotoxicity in patients with renal failure

Sir,

Helldéén et al. [1] describe serious neurological adverse side effects during aciclovir (ACV) or valaciclovir (VACV) therapy in patients with renal failure and concluded that the determination of 9-carboxymethoxymethylguanine (CMMG) levels in serum may be a useful tool in supporting the diagnosis of ACV-associated neuropsychiatric symptoms. They went on to suggest pharmacokinetic studies were required to provide recommendations for dosing with ACV and VACV in renal failure.

Pharmacokinetic studies have been performed with ACV in oliguric patients on haemodialysis [2] and continuous ambulatory peritoneal dialysis (CAPD) [3], and have been performed with VACV on patients on CAPD [4]. Recommendations in dose adjustment taking into account the degree of renal failure and the mode of dialysis have been made. The common conclusion from these studies is that the recommended dose reduction provided by the manufacturers is inadequate for patients in end-stage renal failure requiring dialysis and does not take into account drug removal on haemodialysis.

The dose reduction required may be more significant in oliguric patients than in those with non-oliguric renal failure given that the normal route of excretion (91%) is via urine. Helldéén et al. do not include an estimation of urine volumes in their patients which may have confounded some of their data as simple extrapolation of ACV clearance according to creatinine clearance may not be valid.

Prevention of neurotoxicity by dose reduction and the ability of haemodialysis, by rapid drug removal, to help differentiate between symptoms of encephalitis and ACV toxicity [5], whilst simultaneously proving therapeutic is possibly a better strategy to adopt than measurement of CMMG, which may subsequently serve to act as a confirmatory test.

Conflict of interest statement. None declared.

Dr Dorhout Mees that it will need to be used in association with other measures for optimum results.

Conflict of interest statement. None declared.

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