LETTERS TO THE EDITOR
GENERAL CORRESPONDENCE

Twenty-four hour continuous infusion of amphotericin B for the treatment of suspected or proven fungal infection in haematology patients

We read with great interest the guidelines for use of antifungal agents in the treatment of invasive Candida and mould infections published recently in the Journal.¹ We would like to comment further on the use of prolonged (24 h continuous infusion) amphotericin B administration as a potentially less nephrotoxic alternative to a traditional 4 h administration time.

As a result of fiscal restraints our unit has been forced to continue use of amphotericin B as the primary antifungal agent for treatment of haematology patients with suspected or proven fungal infection. On the basis of reports such as those referred to in the guidelines,² in 2000/2001 we changed the administration time of amphotericin B used in our unit from 4 h to a 24 h continuous infusion. Because of increasing concerns of continued high rates of nephrotoxicity despite using the 24 h infusion for amphotericin B administration, we undertook an audit of all patients who received this treatment in our unit from January to August 2004.

In total, 28 patients were treated with 24 h infusion amphotericin B during the time period under review. Median age was 52 years (range 16–74 years). Using the Cockcroft–Gault formulae to estimate creatinine clearance from serum creatinine, 21 patients (75%) experienced a >30% reduction in creatinine clearance from baseline and 17 (61%) a >50% reduction. Interestingly, in eight cases (29%) the reduction in creatinine clearance actually occurred ≥24 h after amphotericin B was discontinued. Overall, either during and/or within 4 days of discontinuation of amphotericin B, serum creatinine increased to above the normal range in 21 patients (75%), peaking at >150% of baseline values in 20 patients (71%) and >200% of baseline values in 17 (61%). In 12 cases (36%) serum creatinine increased from within the normal range to >0.15 mmol/L.

The rates of nephrotoxicity we experienced with 24 h amphotericin B administration are very similar to those reported in large randomized trials using standard amphotericin B infusion times.³,⁴ Of note, in the previous report suggesting reduced nephrotoxicity with the use of prolonged amphotericin B administration, baseline creatinine clearances were significantly different between patients receiving the 4 h and 24 h infusion times compared in the study.² This suggests that the superior creatinine clearance reported in the 24 h infusion group may in fact simply result from differences in baseline renal function at study entry.

No data on the efficacy of 24 h amphotericin B administration in relation to resolution of fever or proven fungal infection were collected as part of our audit.

In conclusion, our experience with 24 h amphotericin B infusion for the treatment of suspected or proven fungal infection in haematology patients suggests that nephrotoxicity is similar to that historically reported using shorter infusion times. On the basis of our experience we agree completely with the recommendations made in the guidelines¹ and suggest that amphotericin B, at any infusion rate, should be avoided in all haematology patients in whom renal failure would significantly complicate ongoing chemotherapy and/or management of the underlying haematological condition. We believe this recommendation absolutely includes all patients undergoing allogeneic stem cell transplantation procedures.

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REFERENCES