**ABSTRACT**

The echinocandins are an important class of antifungal agents. For intravenous administration, pharmacokinetic parameters include area under the concentration-time curve (AUC), time above the MIC (t>MIC), volume of distribution, and clearance (CL). Biafungin is a high stability echinocandin for intravenous IV administration. The compound was studied by non-compartmental analysis in rats, dogs, and monkeys. In rats, the 3M curve was determined in four animals by IV bolus injection. In the dog, a crossover design was used with four animals and administration by IV push. In the monkey, a crossover design was used with three animals and administration by IV push. For each of these studies, concentrations were determined by quantitative LC/MS/MS analysis compared to a calibration curve and in standard plasma. Pharmacokinetic parameters were calculated using non-compartmental analysis.

**RESULTS**

**RESULTS cont.**

- The plasma concentration-time curves for biafungin and anidulafungin after IV administration in Sprague Dawley rats are shown in Figure 1. The T_{1/2} and CL for biafungin were 21 h and 16.6 L/h/kg, respectively. For anidulafungin, they were 22 h and 1.6 L/h/kg, and 64 L/kg respectively.

- The plasma concentration-time curves for biafungin and anidulafungin after IV administration in beagle dogs are shown in Figure 2. The T_{1/2} and CL for biafungin were 53 h and 19.1 L/h/kg, respectively. For anidulafungin, they were 12 h and 1.4 L/h/kg, respectively.

- The plasma concentration-time curves for biafungin and anidulafungin after IV administration in cynomolgus monkeys are shown in Figure 2. The T_{1/2} and CL for biafungin were 6 and 19.1 L/h/kg, respectively. For anidulafungin, they were 12 h and 1.4 L/h/kg, respectively.

**REFERENCES**


**ACKNOWLEDGMENTS**

We thank Phoebe Zaudenes and Bae Perester of Charles River Laboratories for their contributions in the rat and monkey studies. We also thank Dr. Brian Doan, his colleagues at 3M, and their colleagues in the 3M pharmaceuticals group for their contributions in these studies.