

# Correspondence

## Dosing Voriconazole in an Obese Patient

TO THE EDITOR—Despite increases in obesity, data to guide dosing of voriconazole in this population are lacking. We describe the dosing of intravenous voriconazole in an obese patient undergoing an allogeneic hematopoietic cell transplant.

A 30-year-old male underwent a matched unrelated donor allogeneic stem cell transplant (SCT) for the treatment of acute promyelocytic leukemia. On day +1 following SCT, the patient spiked a neutropenic fever and was initiated on vancomycin and meropenem. The patient continued to spike fevers and subsequently received treatment with micafungin. Despite the broad spectrum antimicrobial coverage, the patient continued to spike fevers, and empiric mold coverage with voriconazole was initiated on day +8. The patient weighed 225 kg and had a body mass index of 84.5 kg/m<sup>2</sup>. Due to lack of data regarding dosing of voriconazole in obese patients, the decision was made to dose voriconazole based on an adjusted body weight ( $[\text{actual weight} - \text{ideal weight}] \times 0.4 + \text{ideal weight}$ ). The patient received a loading dose of voriconazole 6 mg/kg based on adjusted body weight PO every 12 hours for 2 doses, followed by voriconazole 4 mg/kg every 12 hours. Levels were drawn at 1 hour, 5 hours, 9 hours and 12 hours after the 8th dose of voriconazole to estimate the area under the curve (AUC) and correlate with previously described pharmacokinetics in the allogeneic transplant population [1]. The calculated AUC was 41.85 mg-h/L and was similar to data in allogeneic SCT recipients (median, 33.81 mg-h/L; range, 14.75–47.82 mg-h/L). Voriconazole was

discontinued when the galactomannin returned negative following neutrophil recovery.

To our knowledge, this is the first report of voriconazole dosing in an obese allogeneic hematopoietic cell transplant patient. A previous study on voriconazole dosing in obese, otherwise healthy patients demonstrated a mean AUC of 14.6 mg-h/L (9.21, 23.1) with doses of 200 mg every 12 hours and a mean AUC of 29.2 mg-h/L (19.4, 43.8) with doses of 300 mg every 12 hours. Little correlation with weight-based dosing using total body weight, lean body weight, adjusted body weight, or body surface area was seen [2]. Based on our findings, it appears an adjusted weight based dosing for obese allogeneic transplant patients will yield a voriconazole AUC similar to a nonobese population. However, considering the nonlinear pharmacokinetics of voriconazole, further studies are warranted to determine ideal voriconazole dosing in this patient population.

## Notes

**Potential conflict of interest.** All authors: No reported conflicts.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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