Prevalence of White Coat Effect in Patients with Pseudo-resistant Hypertension

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ABSTRACT

Introduction: The prevalence of white coat effect (WCE) in patients with pseudo-resistant hypertension is not established locally. WCE may result in unwarranted intensification of therapy, leading to increased health costs, drug adverse effects, and decreased adherence to prescribed treatment. Therefore, the primary objective is to determine the prevalence of WCE among patients with pseudo-resistant hypertension in Malaysia. Methods: A retrospective cross-sectional study was conducted to review therapeutic drug monitoring serum trough levels among Neonatal Intensive Care Unit (NICU) patients in Kajang Hospital, Malaysia who received at least three doses of intravenous vancomycin therapy from January 2013 to December 2018. The percentage of neonates achieving sub-therapeutic, therapeutic and supra-therapeutic trough levels were compared. Results: Of the 51 patients included, the mean gestational age was 31.8 weeks whereas the mean postmenstrual age was 35.3 weeks. Preterm neonates comprised the majority of the sample (82.4%). On average, patients were started on vancomycin therapy at a postnatal age of 24.1 days and weight of 1922.5 grams, and received vancomycin for 6.7 days. 41.2% achieved a goal trough of 10 to 20 mcg/mL. 21.6% of trough concentrations were sub-therapeutic whereas 37.3% were supra-therapeutic. Supra-therapeutic trough concentrations were more often observed in the preterm group compared to term neonates (45.2% vs 0%, p < 0.05). Only 1 neonate experienced nephrotoxicity (defined as a doubling of serum creatinine from baseline). Conclusion: The current vancomycin dosing regimens used in NICU patients yielded 41.2% of therapeutic trough concentrations. Preterm neonates experienced higher occurrence of supra-therapeutic trough levels. Further studies are required to evaluate the optimal dosing regimen to achieve therapeutic trough concentrations in this patient population.