

Vasoactive Ventilation Renal Score as a Predictor of Outcomes in Children Admitted to PICU: An Observational Study

Original Article

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ABSTRACT

OBJECTIVES

To determine the area under curve (AUC) for vasoactive ventilation renal score (VVRS) > 10 at 24-h of admission for predicting mortality in children aged 1–12 years admitted to pediatric intensive care unit (PICU). To also determine the AUC for VVRS > 10 at 48-h of admission for predicting mortality and to determine the AUC of VVRS > 10 at 24-h and 48-h of admission for predicting PICU stay > 3 days, hospital stay > 10 days and mechanical ventilation > 3 days.

METHODS

This observational study included 310 children aged 1–12 years admitted in PICU. All required parameters were noted, and VVRS, ventilation index and change in creatinine at 24-h and 48-h of admission were recorded. Receiver operating characteristic curves were computed to determine the predictive role of VVRS > 10 at 24-h and 48-h for mortality, duration of PICU stay, hospital stay and mechanical ventilation.

RESULTS

Seventy nine (25%) patients succumbed during the study. VVRS > 10 at 24-h and 48-h had a good predictive role for mortality with AUC of 0.873 (sensitivity 89.87%, specificity 69.70%) and 0.996 (sensitivity 96.20%, specificity 96.10%), respectively. Best cutoff s derived for VVRS (24-h), and VVRS (48-h) were > 2.5 and > 13.5. A higher AUC, sensitivity and specificity of VVRS at 48-h were observed for predicting prolonged PICU stay, duration of mechanical ventilation and hospital stay.

CONCLUSION

VVRS at 24-h and 48-h has a good predictive role for mortality in children admitted to PICU.

Keywords: Children · Intensive care unit · Outcomes · VVRS.

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