

Abstract

Aim: The objective of this study is to review the local management of patients with methicillin-resistant *Staphylococcus aureus* hospital-acquired pneumonia treated with vancomycin or linezolid with the goal to define if any difference exists among these antimicrobials in regard to clinical and economic outcomes.

Patients & Methods: All ICU patients in Kasr el-Einy Hospital from 2012 to 2014 who developed hospital acquired pneumonia and treated with vancomycin or linezolid were enrolled in the study if they fulfill the following criteria:

- 1- Clinical criteria for HAP/VAP
 - 2- Isolation of MRSA from a respiratory sample or blood culture within 48 hours of the diagnosis of HAP/VAP.
 - 3- Treatment of MRSA HAP/ VAP with either vancomycin or linezolid.
- Patients' not meeting enrollment criteria had been excluded.

Results: The study groups were 30 patients, 50 % were males and 50 % were females. Patients who received vancomycin were 17 patients and patients who received linezolid included 13 patients. At onset of diagnosis SOFA score was significantly higher in linezolid group which was 10.1 ± 2.84 compared to 6.70 ± 3.15 in vancomycin group with P value 0.003. Expected mortality was significantly higher in linezolid group which was 61.5% for expected mortality 15-20% and 30.8% for expected mortality 40-50% , vs 29.4% and 5.9% in vancomycin group with P value 0.008. At the end of the antibiotic course there was no significant difference between both groups regarding scoring severity and expected mortality. Successful weaning from mechanical ventilation was significantly higher in the group receiving linezolid compared to the

group receiving vancomycin 61.5% versus 17.6%. The ICU length of stay in days was significantly shorter in the group receiving linezolid compared to the group receiving vancomycin 16.4 ± 4.62 versus 27.6 ± 18.4 with p value 0.011(S). Regarding outcome it was found that 84.6% in the linezolid group versus 58.8% in the vancomycin group had been cured & discharged home, 23.5% in the vancomycin group died during or at the end of the antibiotic course and 15.4% in the linezolid group versus 17.6% in the vancomycin group had died later from other reasons with no statistical significant difference.

Conclusion:

This study shows that treatment with linezolid is more efficacious than treatment with vancomycin for MRSA-confirmed Nosocomial Pneumonia. With probable cost savings with linezolid derived largely from lower treatment failure rates, increased chance of successful weaning from Mechanical ventilation, shorter ICU stay, lower incidence of renal failure & thrombocytopenia with a possible non significant mortality benefit.

Key Words

linezolid

Vancomycin

Methicillin resistant staph aureus , MRSA

Pneumonia

Comparison