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Impact of linezolid on economic outcomes and determinants of cost in a clinical trial evaluating patients with MRSA complicated skin and soft-tissue infections.

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BACKGROUND: In clinical trials, linezolid has demonstrated higher clinical cure rates and shorter hospital duration for patients than has vancomycin for the treatment of complicated skin and soft-tissue infections (cSSTIs).

OBJECTIVE: To assess economic outcomes of linezolid versus vancomycin and evaluate determinants of treatment costs for cSSTIs.

METHODS: Economic data were obtained from US subjects enrolled in a multinational, open-label, clinical trial of cSSTIs caused by suspected or proven methicillin-resistant *Staphylococcus aureus* (MRSA). Subjects were randomized to receive intravenous or oral linezolid or intravenous vancomycin for 7-21 days. Costs for each patient were evaluated by applying nationally representative per diem hospital costs by hospital ward. Intravenous administration costs were applied to the duration of intravenous treatment. Factors contributing to the cost of therapy were evaluated using multivariate regression analysis.

RESULTS: Seven hundred seventeen US patients were included in the study. Demographics were similar between treatment groups. Length of stay and duration of intravenous therapy were shorter for linezolid-treated patients. Mean +/- SD cost for intent-to-treat population patients treated with linezolid versus vancomycin was 4865 US dollars +/- 4367 versus 5738 US dollars +/- 5190, respectively ($p = 0.017$), and in the MRSA population was 4881 US dollars +/- 3987 versus 6006 US dollars +/- 5039, respectively ($p = 0.041$). Factors significantly associated with increased cost included vancomycin therapy, age, and comorbidities, including diabetes. After adjusting for all other factors, treatment with linezolid was associated with significantly lower treatment costs compared with vancomycin.

CONCLUSIONS: Linezolid therapy was associated with improved clinical outcomes and significantly lower treatment costs than was vancomycin. The largest cost advantage was demonstrated in patients with documented MRSA cSSTIs.

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