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The comparative efficacy and safety of vancomycin vs. teicoplanin: Systematic review and meta-analysis.

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BACKGROUND: Vancomycin and teicoplanin are the glycopeptides currently in use for invasive beta-lactam-resistant Gram-positive infections.
METHODS: Systematic review and meta-analysis of randomized controlled trials comparing vancomycin vs. teicoplanin administered systemically for suspected or proven infections. A comprehensive search without year, language or publication-status restrictions was performed. The primary outcome was all-cause mortality. Two reviewers independently extracted the data. Risk ratios with 95% confidence intervals were pooled using the fixed effect model (RR>1 favor vancomycin).
RESULTS: Twenty-four trials were included. All-cause mortality was similar overall (RR 0.95, 95%CI 0.74-1.21), without significant heterogeneity. In trials using adequate allocation concealment results favored teicoplanin (RR 0.82, 95%CI 0.63-1.06), while in trials with unknown methods or inadequate concealment, results favored vancomycin (RR 3.61, 95%CI 1.27-10.30). The latter trials might have recruited more severely-ill patients. No other variable affected the RRs for mortality, including the assessment of glycopeptides empirically or for proven infections, neutropenia, participants' age and drug dosing. There were no significant differences between teicoplanin and vancomycin with regard to clinical failure, RR 0.92 (0.81-1.05), microbiological failure, RR 1.24 (0.93-1.65) and other efficacy outcomes. Lower RRs (in favor of teicoplanin) for clinical failure were observed with lower risk of bias and when treatment was initiated for Gram-positive infections rather than empirically. Total adverse events (RR 0.61, 95%CI 0.50-0.74), nephrotoxicity (RR 0.44, 95%CI 0.32-0.61) and red man syndrome were significantly less frequent with teicoplanin.
CONCLUSION: Teicoplanin is not inferior to vancomycin with regard to efficacy and is associated with a lower adverse event rate than vancomycin.

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