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Outcomes and cost effectiveness of outpatient parenteral antimicrobial therapy (OPAT) in patients with diabetic foot infection

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Purpose: To determine clinical outcomes in patients with diabetic foot infections (DFI) receiving outpatient parenteral antimicrobial therapy (OPAT). Secondary outcomes were to evaluate cost effectiveness and to analyse demographic, clinical and laboratory data that may predict OPAT failure.

Methodology: A retrospective cohort analysis was conducted between 1st January 2007 and 7th July 2012 at a tertiary referral hospital in metropolitan Sydney. Patients with DFI were identified from the Liverpool High Risk Foot Service. Demographic, clinical, laboratory, and operative report data were obtained from patient charts and electronic medical records (EMR). Cost effectiveness was calculated on the cost of expenditure versus the expected savings. Linear regression was used to explore outcomes associated with OPAT failure.

Results: 59 patients were identified over the 5 year study period. OPAT success rate for DFI was 88% with a 12% OPAT failure rate. Following the resolution of symptoms presentations for recurrence of infection at the original site or at a new site of infection were high (n=26, 44%). Regression analysis of variables for OPAT failure failed to indicate any statistical significance. Total bed days saved due to OPAT was 1569 days with savings calculated at \$983,645. The standardised mortality ratio was found to be 10 times that of the expected population (SMR 10, 95% CI 5.1-14.9).

Conclusion: Out-patient intravenous therapy for diabetic foot infections is an effective mode of treatment with observed cost savings. High re-infection rates in this population underline the requirements for close monitoring.

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