The clinical and cost-effectiveness of outpatient parenteral antimicrobial therapy (OPAT) services are well described. We used a blood culture database as a novel approach to case finding and determined its utility in identifying inpatients suitable for OPAT" Melzer et al (2016).

Abstract:

BACKGROUND: The clinical and cost-effectiveness of outpatient parenteral antimicrobial therapy (OPAT) services are well described. We used a blood culture database as a novel approach to case finding and determined its utility in identifying inpatients suitable for OPAT.

METHODS: From December 2012 to November 2013, consecutive adult inpatients with bacteraemia, and those recruited to OPAT, were prospectively studied. Univariate and multivariate logistic regression analysis were used to investigate the association between bacteraemic patient characteristics and OPAT recruitment.

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RESULTS: There were 470 bacteraemic and 134 OPAT patients. The blood culture database identified 22 (16.4%; CI 10.5 to 23.6) additional patients suitable for OPAT, 4.7% (95% CI

3.0% to 7.0%) of the total bacteraemic cohort. 20 (90.9%) of these patients had community-acquired bacteraemia. Bacteraemic patients with urinary tract infections (UTIs), 11/157 (7.0%; 95% CI 3.5% to 12.2%) were most commonly recruited to OPAT and Escherichia coli was the most common blood culture isolate. In the E. coli bacteraemic subgroup, extended-spectrum β-lactamase (ESBL) producers were significantly higher in the OPAT group, compared with the non-OPAT group, 9/11 (81.8%) vs 17/192 (8.9%), p<0.001. Among OPAT patients, there were no deaths within 30 days and no significant difference in relapse rates between bacteraemic and non-bacteraemic patients, 1/22 (4.6%) vs 5/112 (4.5%). In logistic regression analysis, there were no patient characteristics in the bacteraemic cohort that predicted recruitment to OPAT. In a subgroup analysis of patients with Gram-negative bacteraemia, ESBL production was strongly associated with OPAT recruitment, OR 5.85 (95% CI 1.94 to 17.58), p=0.002.

CONCLUSIONS: A blood culture database proved a useful adjuvant to a clinical referral system, particularly for patients with community onset, multidrug resistant UTIs caused by ESBL producing E. coli. All bacteraemic patients recruited to OPAT received treatment safely and had good clinical outcomes.

Reference:

Melzer, M., Macpherson, L. and Welch, C. (2016) The utility of a blood culture database to identify patients suitable for outpatient parenteral antibiotic treatment. Postgraduate Medical Journal. November 7th. .

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