

Infective endocarditis in patients receiving haemodialysis: epidemiology in a single centre

Dr Saif Al-Chalabi¹, Dr Rajkumar Chinnadurai¹, Professor Philip A Kalra¹

¹*Salford Royal Hospital Nhs Foundation Trust, Salford, United Kingdom*

Introduction

Infective endocarditis (IE) is a serious infective complication that usually results in prolonged hospitalisation and is associated with a high morbidity and mortality. Patients with end-stage renal disease receiving haemodialysis are at high risk of developing IE for various reasons including complex comorbidities and intra-vascular catheters. This study aimed to investigate the characteristics and outcomes of haemodialysis patients with infective endocarditis.

Methodology

This single centre observational study was conducted on all patients receiving haemodialysis at our centre who were diagnosed with IE between 2005 and 2018. The list of patients was obtained from a data search of electronic patient records (EPR). Data including demographics, organisms from blood culture, vascular access history, echocardiogram reports and patient outcomes were collected from EPR. Descriptive analysis of the data was conducted using Microsoft excel.

Results

Over the period of 14 years, 35 episodes of infective endocarditis in 34 haemodialysis patients were recorded. The male to female ratio was 3:2 (21 male and 14 female) and the mean age was 62 years. 63% of patients were hypertensive and 45% had a history of diabetes mellitus. Staphylococcus was the most common organism isolated in blood cultures (19 out of 35) with a total of 7 negative culture results (Table 1). Left-sided IE was more commonly encountered (23 episodes). Regarding haemodialysis access, 27 patients had cuffed tunnelled lines at the time of diagnosis and 8 had arteriovenous fistulas. Of the patients with tunnelled lines, 15 developed IE within 6 months of catheter insertion. Mean duration of hospital stay was 59 days. 18 of the 35 patients died during their acute admission (mortality rate 53%).

Conclusion

Our observational study demonstrates that haemodialysis patients with IE had a prolonged hospital stay and high mortality rate. Risk factors for IE that were identified in this study include staphylococcus infection and the presence of indwelling dialysis catheters, with the majority of IE developing within 6 months of catheter insertion. Further studies comparing bacteraemia patients with and without IE may help to determine risk factors for developing IE.