Valvular, Myocardial, Pericardial, Pulmonary, Congenital Heart Disease –
Infective Endocarditis – Epidemiology, Prognosis, Outcome

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Prognosis of short- and long-term dialysis in patients with infective endocarditis: a nationwide study

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Background: Infective endocarditis (IE) may be complicated by acute kidney injury, yet data on the use of dialysis and subsequent reversibility are sparse. We set out to examine the prognosis of short- and long-term dialysis in patients with IE.

Methods: Using Danish nationwide registries we identified patients with first-time IE from 2000 to 2017. Dialysis naïve patients were grouped into: those who were treated with dialysis during admission with IE and those who were not. The cumulative incidence of continuous use of dialysis was examined one year post-discharge Multivariable adjusted Cox proportional hazard analysis was used to examine one-year mortality for patients surviving IE based on use of dialysis.

Results: We included 7,307 patients with IE; 416 patients (5.7%) initiated dialysis treatment during admission with IE and these were younger, had more comorbidities and more often underwent cardiac valve surgery during admission with IE compared with non-dialysis patients (47.4% vs. 20.9%). In patients with both surgical intervention and dialysis treatment, 153 (77.7%) initiated dialysis on- or after the date of surgery. The in-hospital mortality was 40.4% and 19.0% for patients with and without dialysis, respectively ($p<0.0001$). Of those who started dialysis and survived hospitalisation, 78.4% became dialysis-free within one year after discharge. Among those who survived one week subsequent to IE discharge, we identified 5,520 who never had dialysis, 204 patients without continued use of dialysis, and 40 patients with a continued use of dialysis. The corresponding mortality risk at one year was 15.2%, 13.5%, and 41.6% (Figure), respectively. Compared with patients not treated with dialysis, those who became dialysis-free at discharge showed no increased risk of one year mortality in adjusted analysis (HR=1.45, 95% CI: 0.97–2.20), while patients who continued dialysis had an increased associated risk of mortality (HR=2.00, 95% CI: 1.20–3.33).

Conclusion: In dialysis-naïve patients with IE, more than 1 in 20 patients initiated dialysis treatment during admission. Dialysis identified a high-risk group with an in-hospital mortality of 40%–twice as high as their counterparts. In dialysis patients surviving admission with IE, almost 80% became dialysis-free and showed better long-term survival than those who continued dialysis after discharge.
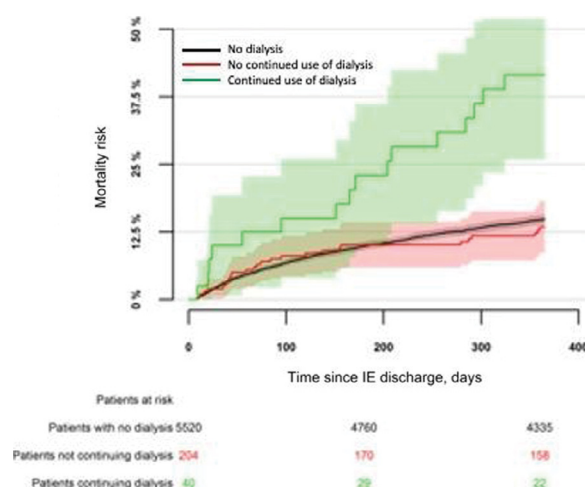
Figure 1