FP387 RENAL FUNCTION AND THE ASSOCIATED RISK OF BACTERAEMIA

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INTRODUCTION: Chronic kidney disease is associated with increased risk of infection; however, this has predominantly been demonstrated in patients on renal replacement therapy. Few studies in selected populations have previously shown a correlation of risk of all-cause infection with decline in renal function. The aim of the present study was to examine the relationship between estimated GFR (eGFR) and risk of bacteraemia in a nationwide population cohort with exclusion of patients on renal replacement therapy.

METHODS: Based on data from multiple nationwide health care registers, all patients with $\geq$1 recorded plasma creatinine measurement were identified in Denmark between 2008 and 2017. Patients entered the model following a 30-day quarantine period. All patients <18 years, patients with preceding renal replacement therapy, and patients with events within the 30 days quarantine period were excluded. eGFR was estimated using the CKD-EPI equation, and standardized one-years risk of bacteraemia were estimated based on G-computation of multiple cause-specific Cox regression models permitting comparison of risk across strata of renal dysfunction (eGFR [ml/min/1.73m2] >90, 90-61, 60-46, 45-31, 30-16, and $\leq$15, respectively).

RESULTS: A total of 3,020,717 eligible subjects were identified. Subjects were predominantly female (56%, n= 1,630,259), with a median age of 50 years (IQR 32 – 65 years), and median eGFR of 95 ml/min/1.73m2 (IQR 81 – 111 ml/min/1.73m2)(eGFR strata (%): >90: 59.3%; 90-61: 33.8%; 60-46: 4.5%; 45-31: 1.7%; 30-16: 0.6%; and $\leq$15: 0.1%.

Standardized one-year risks of bacteraemia were 1.49% (95% CI 1.48% - 1.51%), 1.58% (95% CI 1.56% - 1.59%), 2.07% (95% CI 2.03% - 2.11%), 2.65% (95% CI 2.59% - 2.70%), 3.59% (95% CI 3.47% - 3.67%), and 5.60% (95% CI 5.28% - 5.92%) in eGFR >90, 90-61, 60-46, 45-31, 30-16, and $\leq$15, respectively, corresponding to a risk ratio of 1.06 (1.04 – 1.07), 1.39 (1.36 – 1.42), 1.76 (1.73 – 1.81), 2.40 (2.30 – 2.46), and 3.76 (3.53 – 3.97) for eGFR 90-61, 60-46, 45-31, 30-16, and $\leq$15 using eGFR >90 as reference.

CONCLUSIONS: Renal dysfunction infers increased risk of infection. In a retrospective nationwide cohort of non-renal replacement therapy patients, lower eGFR was observed to be associated with a graded proportional increase in one-year risk of bacteraemia.

Figure 1: One-year risk of bacteraemia stratified by eGFR