

The Impact of Hyperkalaemia and Its Concurrence With Cardiovascular and Renal Comorbidities on Healthcare Resource Use in The UK

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OBJECTIVES:

Hyperkalaemia (HK) is a potentially life-threatening electrolyte abnormality characterized by elevated serum potassium concentrations above 5.0mmol/L. The clinical and economic burden of HK is of concern for patients with cardiovascular and renal comorbidities. However, there is limited data on the impact of HK and its concurrence with comorbidities on healthcare resource use (HRU) in the UK. In this study we aimed to characterise HRU associated with HK hospitalisations in patients with different cardiovascular and renal comorbidities in the UK.

METHODS:

A retrospective cohort analysis was conducted using patient data from the Clinical Practice Research Datalink linked to the Hospital Episode Statistics database. The study population included patients aged ≥ 18 years between January 2003 and June 2018 with HK and a record of relevant cardiovascular and renal comorbidities (hypertension, heart failure, diabetes, non-dialysis dependent chronic kidney disease (CKD), dialysis dependent CKD). HRU was examined for each comorbidity considering the number of hospitalisations for HK and the prevalence of the comorbidity.

RESULTS:

The cohort consisted of 498,196 patients. Of these, 36.9% had hypertension, 33.8% diabetes, 35.1% CKD, 11.0% heart failure, and 0.6% were in receipt of dialysis. HK specific hospitalisation rates were 4.3 (95% confidence interval 4.2-4.4), 5.1 (5.0-5.3), 8.2 (8.0-8.5), 16.9 (16.2-17.6) and 62.7 (57.7-68.0) per 1,000 patient years, respectively. There were no significant differences in length of stay observed for each comorbidity (range 15.2-17.6 days). Hospitalisation rates increased with an accumulation of comorbidities. Total resource use costs were £49,745,643, £52,186,175, £76,567,465, £32,245,605 and £6,490,852 for hypertension, diabetes, CKD, heart failure and dialysis patients respectively.

CONCLUSIONS:

Understanding at risk patients could help treat/prevent HK and therefore reduce HRU. When considering HK preventative strategies, although patients with dialysis have increased hospitalisation rates, prioritising comorbidities with significant resource use has the potential to have the greatest impact on NHS budgets.