FACTORS ASSOCIATED WITH TREATMENT DISCONTINUITIES AMONG PATIENTS RECEIVING RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM INHIBITORS

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INTRODUCTION AND AIMS: Renin-angiotensin-aldosterone system inhibitors (RAASi) are a mainstay of treatment for conditions such as hypertension, diabetes, heart failure, and chronic kidney disease. Discontinuous exposure is common, but factors associated with discontinuous exposure are unknown. We modeled factors associated with the longest discontinuity in RAASi treatment, defined as interruption (temporary) or cessation (permanent), in a general population in England.

METHODS: We used data from the Clinical Practice Research Datalink (CPRD), linked to Hospital Episode Statistics (HES) files to assemble a cohort of incident and prevalent RAASi users. Index date was first RAASi use between January 1 2009 and December 31, 2014 among individuals meeting the following inclusion criteria: age ≥ 18 years, no active cancer, no history of volume depletion in the week prior to index date, and ≥1 year of observation time prior to index date. Patients were followed until first treatment interruption or cessation and follow-up ended by December 31, 2015. We used Cox proportional hazards modeling to investigate factors associated with first treatment interruption or cessation.

RESULTS: 433,953 patients met our inclusion criteria; 69.5% were women, 48.8% were female, 80.3% were white, and 13.5% were current smokers. The most common comorbidities were hypertension (77.3%), hyperlipidemia (29.6%), ischemic heart disease (23.0%), and CKD (19.9%). Factors associated with the strongest increased risk of RAASi treatment interruption or cessation were non-white race [Asian: HR (95% CI) 1.37 (1.33, 1.41); Black 1.51 (1.46, 1.56)], liver disease [1.19 (1.17, 1.21)], history of severe hyperkalemia [1.14 (1.09, 1.20)], and recent RAASi initiation [1.56 (1.54, 1.59)] (figure).

CONCLUSIONS: Only about 1 in 4 patients appeared to have uninterrupted RAASi treatment over the course of observation, suggesting that patients may not fully benefit from RAASi treatment. Members of racial minorities were substantially more likely...
to experience a treatment interruption. Patients with CKD or a history of severe hyperkalemia were also more likely to experience a treatment interruption, highlighting the need to control potassium levels to optimize RAASi treatment in these patients.