Abstract 1

Efficacy and safety of novel non-steroidal mineralocorticoid receptor antagonist finerenone in the management of diabetic kidney disease: A meta-analysis

Deep Dutta, Vineet Surana1, Saptarshi Bhattacharya2, Sameer Aggarwal3, Meha Sharma4

Background: Data are scant on use of finerenone in diabetic kidney disease (DKD). We undertook this meta-analysis to address this knowledge-gap.

Methods: Electronic databases were searched for RCTs involving diabetes-patients receiving finerenone compared to controls. Primary outcome was changes in urine albumin-creatinine ratio (UACR). Secondary outcomes were time to kidney failure (decline in GFR by >40% from baseline over 4 weeks), time to end-stage kidney disease, hospitalization for any cause, death and adverse events reported.

Results: From initially screened 79 articles, data from 7 RCTs involving 13,783 patients was analysed [3 in active control group (ACG) defined as having eplerenone/spironolactone as active comparator; 4 in passive control group (PCG) defined as having placebo as controls]. Patients receiving finerenone had greater percentage lowering of UACR from baseline as compared to PCG [MD -23.82% (95%CI:-24.87– -22.77);P<0.01;I²=96%] at 90 days, after 2 years [MD -37.9% (95%CI:-38.09– -37.71);P<0.01] and 4 years [MD -25.20% (95%CI:-25.63– -24.77);P<0.01] of treatment. Patients receiving finerenone has lower chance of >40% decline in GFR [OR 0.83 (95%CI:0.75 – 0.92);P<0.01; I²=0%]. Patients receiving finerenone had lower occurrence of cardiovascular death, non-fatal myocardial infarction, non-fatal stroke or hospitalization for heart failure, as compared to placebo/eplerenone [OR 0.86 (95%CI:0.78 – 0.95);P=0.003;I²=0%]. TAEs was similar [RR 0.97 (95%CI:0.88–1.07);P=0.56;I²=0%], but SAEs significantly lower [RR 0.91 (95%CI:0.84–0.97);P<0.01;I²=0%] in finerenone-group compared to controls.

Conclusion: This meta-analysis provides reassuring data on beneficial impact of finerenone in reducing UACR and GFR decline as compared to placebo in albuminuric DKD. We still lack head-to-head comparison of renal outcomes of finerenone vs eplerenone/spironolactone in DKD.