

A Meta-Analysis on the Efficacy and Safety of TRC101/Veverimer 6g/Day in Increasing Serum Bicarbonate Levels of Chronic Kidney Disease Patients with Metabolic Acidosis

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Abstract : Objectives: TRC101/Veverimer is an orally administered, non absorbed, sodium- and counterion-free hydrochloric acid binder for the treatment of metabolic acidosis associated with chronic kidney disease. The main objective of this study is to determine the efficacy of TRC 101/ Veverimer 6g/day in increasing serum bicarbonate levels of chronic kidney disease patients with metabolic acidosis. In this meta analysis, we also aim to look at safety outcomes, adverse effects and if the level of serum bicarbonate reached metabolic alkalosis when given TRC101/Veverimer. Methodology: Pubmed, Cochrane, Google Scholar and Science direct were used to search for randomized controlled trials about TRC101/Veverimer use in Chronic kidney disease patients with metabolic acidosis. Search strategy according to the Prisma checklist was done with evaluation of biases and synthesis of results using the Cochrane Review Manager software 5.4. Results: Two randomized controlled trials involving 371 chronic kidney disease patients were included in this study. Results show there was a significant increase in the serum bicarbonate level when given TRC101/Veverimer compared to the placebo. Both studies had a significant number of participants who completed the studies until the end. P value of <0.00001 was used in both studies with a confidence interval of 95%. Conclusion: TRC101/Veverimer 6g/day was shown to effectively and safely increase serum bicarbonate or achieve normalization in chronic kidney disease patients with metabolic acidosis as compared with a placebo. This was associated with delayed progression of kidney disease with improvement of physical functioning, however longer duration of future studies is ideal in order to assess further the long advantages and consequences of TRC 101/Veverimer.

Keywords : chronic kidney disease, metabolic acidosis, Veverimer, TRC101

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