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Clinical Nephrology

‘Magna Graecia’ University of Catanzaro

Department of Medical and Surgical Sciences- Nephrology and Dialysis Unit

Long term RamiPROT: a renal function follow- up study

Simeoni M, Cianfrone P, Comi N, Piraina V, Talarico R, Cerantonio A, Gentile I, Fabiano FF, Lucisano G, Foti D, Gullletta E, Fuiano G

Introduction and objectives

CKD progression is highly influenced by proteinuria. Major mechanisms of renal damage progression due to proteinuria are sustained by the pleiotropic effects of the Renin Angiotensin Aldosterone Systems (RAAS) up- regulation [1, 2, 3, 4]. In a previous study (RamiPROT) [5] our research group compared the antiproteinuric efficacy of different doses of Ramipril given in a single daily administration (SDA) or divided in two daily administrations (TDA) in patients affected by mild proteinuric nephropathy (Figure 1). The best antiproteinuric performance of Ramipril was found when the drug was administrered at high dose and in TDA (Figure 2-3). We present the preliminary data of Long Term RamiPROT protocol. We hypothesized that TDA Ramipril 10mg/day, compared to SDA Ramipril 10mg/day, is associated with a slower CKD progression.

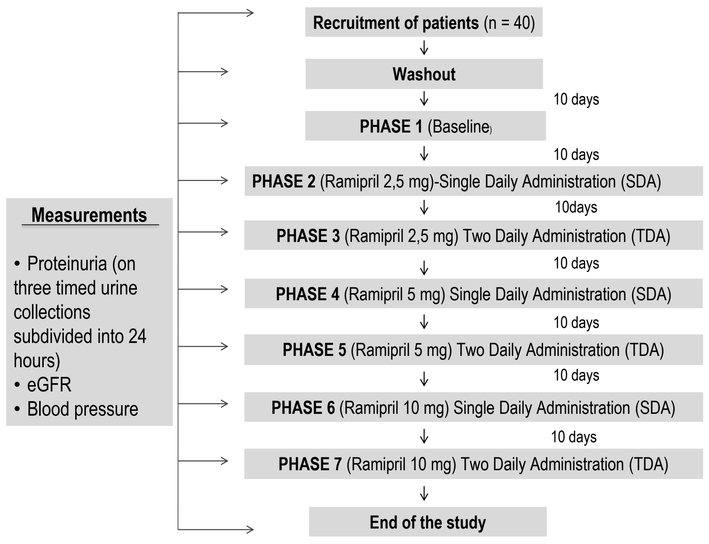

Figure 1. Study design

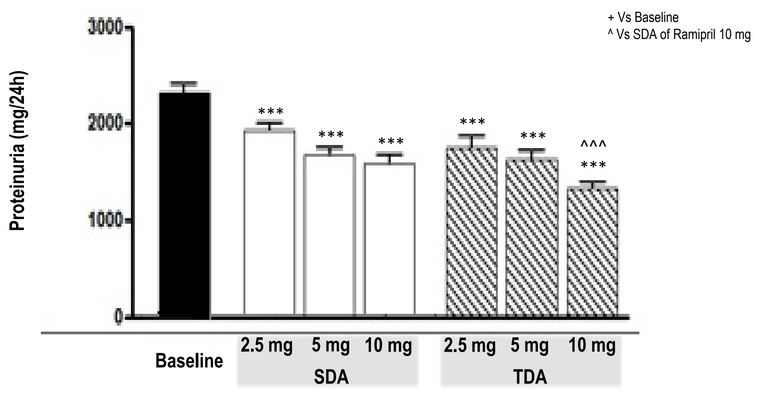

Figure 2. Effect of a single daily administration (SDA) or two divided administrations (TDA) of Ramipril 2.5 mg/day or Ramipril 5mg/day or Ramipril 10mg/day on 24h proteinuria.

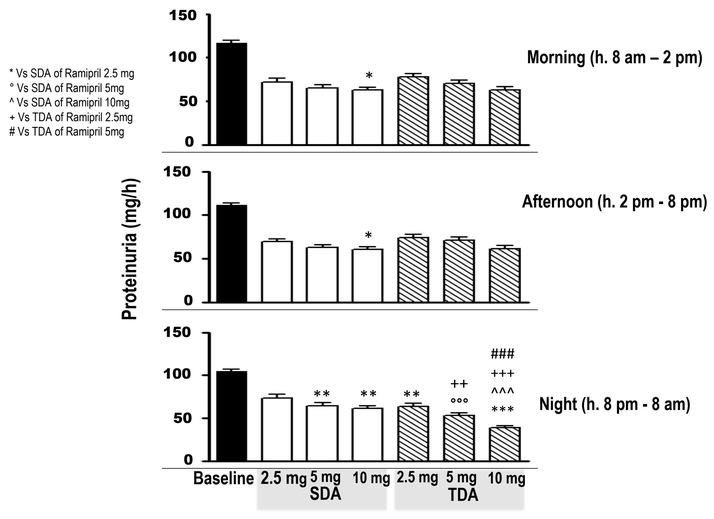

Figure 3. Effect of a single daily administration (SDA) or two divided administrations (TDA) of Ramipril 2.5 mg/day or Ramipril 5mg/day or Ramipril 10mg/day.on fractioned proteinuria (mh/h) in three timed urinary collections belonging to: morinin (h8 am-2pm); afternoon (h2pm-8pm); night (h8pm-8am)..

Methods

Long Term RamiPROT (LT RamiPROT) is an ongoing monocentric, prospective, randomized study in which all 36 patients previously enrolled in RamiPROT study were randomized in two arms: SDA Ramipril 10 mg/day and TDA Ramipril 10 mg (Ramipril 5 mg x 2/day). CKD-EPI eGFR, 24-h proteinuria and blood pressure are in course of evaluation at 1, 3, 6, 12, 24, 36-month follow-up.

Results and Conclusions

At two-year follow-up, 24 h proteinuria remained significantly lower and, of note, eGFR decline rate was significantly lower in TDA Ramipril 10 mg/day group (*Figure 4, 5*) compared to SDA Ramipril 10 mg/day. These preliminary data suggest that TDA Ramipril 10 mg/ day could be more effective then SDA Ramipril 10 mg/day in slowing CKD progression.

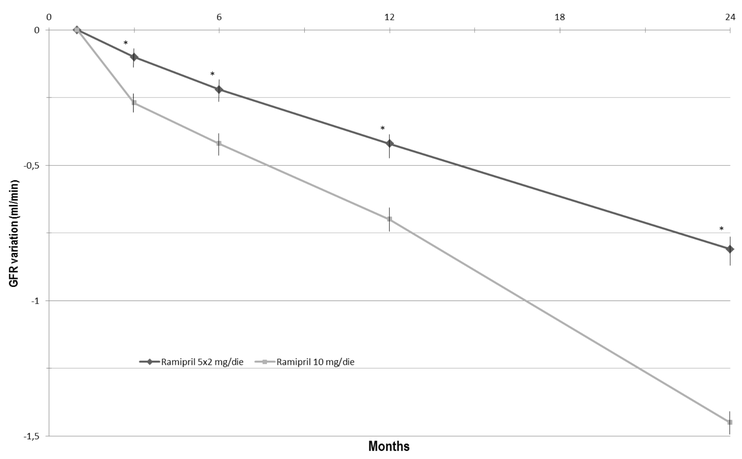

Figure 4. Comparison of mean measured GFR variations (ml/min) between Ramipril 10 mg/day and Ramipril 5 mg x 2/day at different time points

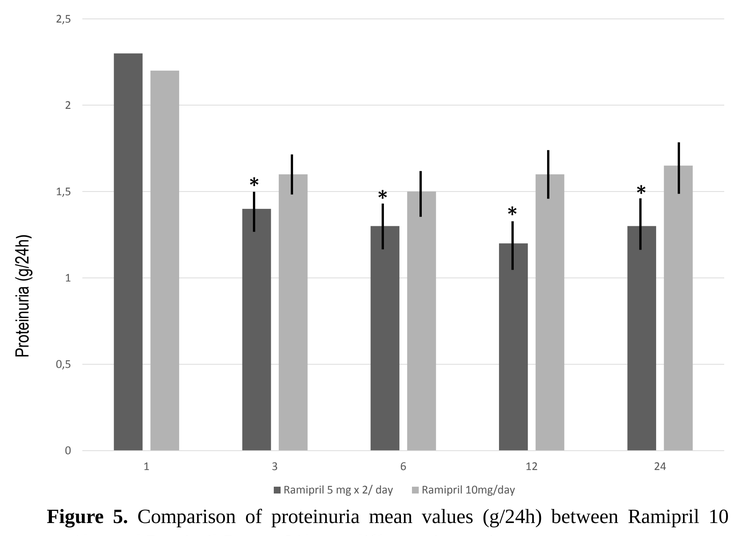

Figure 5. Comparison of proteinuria mean values (g/24h) between Ramipril 10 mg/day and Ramipril 5 mg x 2/day at different time points

References

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