RENIN-ANGIOTENSIN SYSTEM BLOCKADE IN PATIENTS WITH ADVANCED DIABETIC KIDNEY DISEASE

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INTRODUCTION & OBJECTIVES

- Diabetic kidney disease (DKD) is the leading cause of end-stage renal disease (ESRD).
- Renin-Angiotensin system (RAS) blockade has been shown to reduce proteinuria and slow down kidney disease progression in DKD. Clinical guidelines recommend RAS blockade in DKD patients.

OBJECTIVES:

- To study the percentage of DKD patients under RAS blockade therapy in our environment.
- To evaluate the impact of RAS blockade on renal outcomes, progression to ESRD, and mortality in our DKD patients.

METHODS

- 200 DKD patients were included in the study. DKD patients were divided in three groups: non-RAS blockade, RAS blockade, intermittent RAS-blockade.
- The following variables were studied (baseline, 1 year and 3 years): serum creatinine, serum electrolytes, glomerular filtration rate (GFR:CKD-EPI and MDRD formulas), glycolysated hemoglobin.
- The need of renal replacement therapy and mortality were also assessed.

RESULTS

Baseline Characteristics	All patients	non-RAS Blockade (n=42, 21%)	RAS blockade (n=83, 42%)	Intermittent RAS-blockade (n=75, 37%)
Sex (male/female)	120(60%)/80(40%)	25(59%)/17(41%)	51(61%) /32(39%)	44(59%) /31(41%)
Age (years)	70±9	74±9	67±10(a)	70±10
Type of diabetes (DM type 2/DM type 1)	197 (98.5%)/3 (1.5%)	42(100%)/0(0%)	82(98.8%) /1 (1.2%)	73(97.3%)/2 (2.7%)
Hypertension (mmHg)	200(100%)	42 (100%)	83 (100%)	75 (100%)
Systolic blood pressure	146±21	147±20	143±21	148±21
Diastolic blood pressure	72±13	69±13	73±12	71±13
Biochemical paramethers				
Creatinine (mg/dl)	1.78±0.5	2±0.6	1.5±0.4(a)	1.8±0.5
Hemoglobin (g/l)	12.2±1.5	11±1.9	12.5±1.5	12.2±1.5
Glycosylated hemoglobin(%)	7.6±1.6	7.6±2.0	7.8±1.5	7.3±1.4
Sodium (mmol/L)	141.4±3.1	141.7±3.8	141.1±2.7	141.6±3.0
Potassium (mmol/L)	4.8±0.56	4.6±0.60	4.7±0.51	4.8±0.5
Glomerular filtrate rate-MDRD (ml/min/m²)	39±11	32.9±9.1	43.8±9.51 (a)	37.3±11.5
Glomerular filtrate rate-CKD-EPI (ml/min/m²)	38±14.9	30.5±10.6	43.02±13.1 (a)	36.7±16.7
Proteinuria (mg/day)	1199±1469	891±887	1333±1557	1222±1312
MAU/Cr (mg/dl)	1450±5454	2501±8403	585±1039	1812±6148

Table 1: Baseline characteristics of population and biochemical parameters at the first visit at Nephrology department.
MAU/Cr: microalbuminuria/creatinine ratio
(a) p<0.05 non-RAS blockade vs RAS blockade

Complications	non-RAS Blockade	Intermittent RAS-blockade	RAS blockade	p
Mortality	11 (26.2%)*	12 (16%)	8 (9.6%)*	0.053
Ischemic cardiopathy	18 (42.8%)	25 (33.3%)	22 (26.5%)	0.079
Retinopathy	29 (69%)	49 (65.3%)	54 (65.1%)	0.682
Stroke	4 (9.5%)	14(18.7%)	12 (14.5%)	0.407
Peripheric vasculopathy	8 (19%)	20 (26.7%)	21 (25.3%)	0.639
Renal replacement therapy				
Dialysis (Hemodialysis and Peritoneal dialysis)	1 (2.4%)	8 (10.7%)	4 (4.8%)	0.262
Renal transplantation	0 (0%)	1 (1.3%)	2 (2.4%)	0.572

Table 2: Distribution of variables through chi-square test ($\chi 2$). Values are considered significant $p < 0.05$
* $p < 0.05$ between non-RAS Blockade and RAS blockade

Factors	OR	CI (95%)	p
RAS blockade vs non- RAS blockade	0,524	0,181-1,52	0,234
Intermittent RAS blockade vs non-RAS blockade	0,664	0,253–1,743	0,405
Age (years)	1,1	1,04-1,165	0,001

Table 3: Logistic regresion multivariate analysis of independent risk factors for mortality.

CONCLUSIONS

- In our cohort, the percentage of RAS blockade in DKD is decreased in patients with GFR <30ml/min/m².
- We did not observe any differences in the renal outcomes between the three groups. Our study demonstrated a poor follow-up of clinical practice guidelines.
- Our study suggest that randomized clinical trials to determine the benefits of RAS blockade in advanced DKD patients are needed.

REFERENCES:

- Tylicki L, Jakubowska A, Lizakowski S, Świetlik D, Rutkowski B. Management of renin-angiotensin system blockade in patients with chronic kidney disease under specialist care. Retrospective cross-sectional study. Journal of the Renin-Angiotensin-Aldosterone System. 2015; 16(1) 145–152.
- Adler AI, Stevens RJ, Manley SE, Bilous RW, Cull CA, Holman RR. Development and progression of nephropathy in type 2 diabetes: the United Kingdom Prospective Diabetes Study (UKPDS 64). Kidney Int 2003; 63:225-32.

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