TRENDS IN RENIN-ANGIOTENSIN-ALDOSTERONE SYSTEM BLOCKADE IN KIDNEY TRANSPLANT RECIPIENTS – ONE CENTER'S EXPERIENCES

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OBJECTIVES

The renin-angiotensin-aldosterone system (RAAS) blockers are the cornerstone of the hypotensive, cardio and renoprotective treatment in the group of chronic kidney disease (CKD) patients, as the solid data about their beneficial effects have been presented[1,2,3].

However there is no sufficient data for similar long-term outcomes of RAAS blockers in the group of kidney transplant recipients (KTRs), although the reduction of blood pressure and albuminuria has been observed.
The aim of the study was to evaluate the trends in RAAS blockade management in one center group of KTRs.

METHODS

Cross-sectional, observational study was conducted in 2014.

The study population consisted of 327 KTRs (218M) with hypertension and treated with RAAS blocking agent, with a mean age of 54 (range 20 to 85) years transplanted in years 1987 to 2014.
The patients were under one center control of the University Outpatient Transplantation Clinic.

The average time after transplantation was 9,3 years.

The analysis of treatment was based on medical documents of our patients and it consisted of a comparison of the data reported at the moment of administration of the RAAS blocking drug and 3 months later.

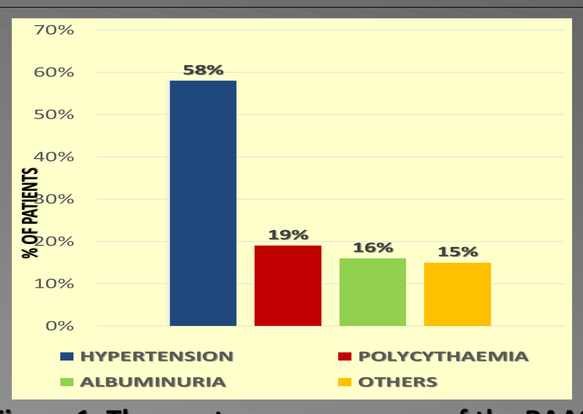

Figure 1. The most common causes of the RAAS blockade administration.

PARAMETER	ACEI			ARB		
	administration	3 months later	p	administration	3 months later	p
SBP [mmHg]	136.6 ± 24.1	129.4 ± 23.3	p<0.05	140.7 ± 24.6	132,5 ± 26	NS
DBP [mmHg]	82.3 ± 14.8	77.9 ± 13.6	p<0.05	82 ± 13.8	79.3 ± 13.9	NS
Haemoglobin concentration [g/dl]	14 ± 3.0	13.5 ± 2.5	p<0.05	13 ± 3.4	12.9 ± 3.2	NS
Potassium level [mmol/l]	4.2 ± 0.8	4.4 ± 0.8	p<0.005	4.3 ± 0.8	4.4 ± 0.8	NS
Serum creatinine [mg/dl]	1.4 ± 0.5	1.4 ± 0.5	NS	1.4 ± 0.4	1.4 ± 0.4	NS
eGFR (CKD-EPI) [ml/min/1,73m²]	57.1 ± 18.7	58.2 ± 19.2	NS	54.1 ± 16.2	54.2 ± 18.7	NS
Urine protein excretion [g/24 h]	0.3 ± 2.2	0.07 ± 0.7	NS	0.4 ± 1.3	0.09 ± 0.3	p<0.05

Table 1. The main results.

RESULTS

The most common causes for the RAAS administration were:
•hypertension
•polycythaemia
•albuminuria (Figure 1).

Among the study population
81% of patients were treated with ACEIs,17% with ARBs and 8% with aldosterone antagonists.

The predominant antihypertensive therapy was a multidrug treatment consisted of 3 or more hypotensive agents (73%).
The average number of medications per patient was 3.19.

The single RAAS blockade was administered in 95% and double blockade in 5% of patients.

The differences between the systolic and diastolic blood pressure, the mean serum creatinine level, eGFR (CKD EPI), serum potassium level, haemoglobin concentration and the 24-hour urine protein excretion are shown in Table 1.

CONCLUSIONS

1. In the analyzed group of KTRs the most frequently used RAAS blocking agents were ACEIs.
2. Neither ACEIs nor ARBs increased significantly the serum level of creatinine and eGFR.
3. ACEIs, but not ARBs influenced significantly on blood pressure, haemoglobin and potassium level.
4. Decrease of the 24-hour urine protein was noticed only in ARBs receiving group of patients.

REFERENCES:

1. Gruppo Italiano di Studi Epidemiologici in Nefrologia, Lancet. 1997 Jun 28;349 (9069): 1857-63.
2. Kröpelin T.F et al., Individual long-term albuminuria exposure during angiotensin receptor blocker therapy is the optimal predictor for renal outcome, Nephrol Dial Transplant 2016;0:1-7.
3. Tylicki L, et al., Management of RAAS blockade in patients with CKD under specialist care. Journ of the renin-angiotensin-aldosterone system, 2015,16 (1).

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