

Management of hypertension among non-dialysis chronic kidney disease patients in Poland 1996-2011

Retrospective, cross-sectional one center study.

L. Tylicki, A. Jakubowska, E. Weber, S. Lizakowski, D. Świetlik, B. Rutkowski

Department of Nephrology Transplantology and Internal Medicine. Medical University of Gdansk. Poland

OBJECTIVES

Controlling hypertension is important to protect renal function and prevent cardiovascular disease in chronic kidney disease (CKD) patients but the implementation of recommendations on hypertension treatment in this population is unknown.

The aims were to verify the adherence of studied population to proposed BP targets. The secondary goal was to illustrate the management of hypertension in the enrolled CKD patients.

METHODS

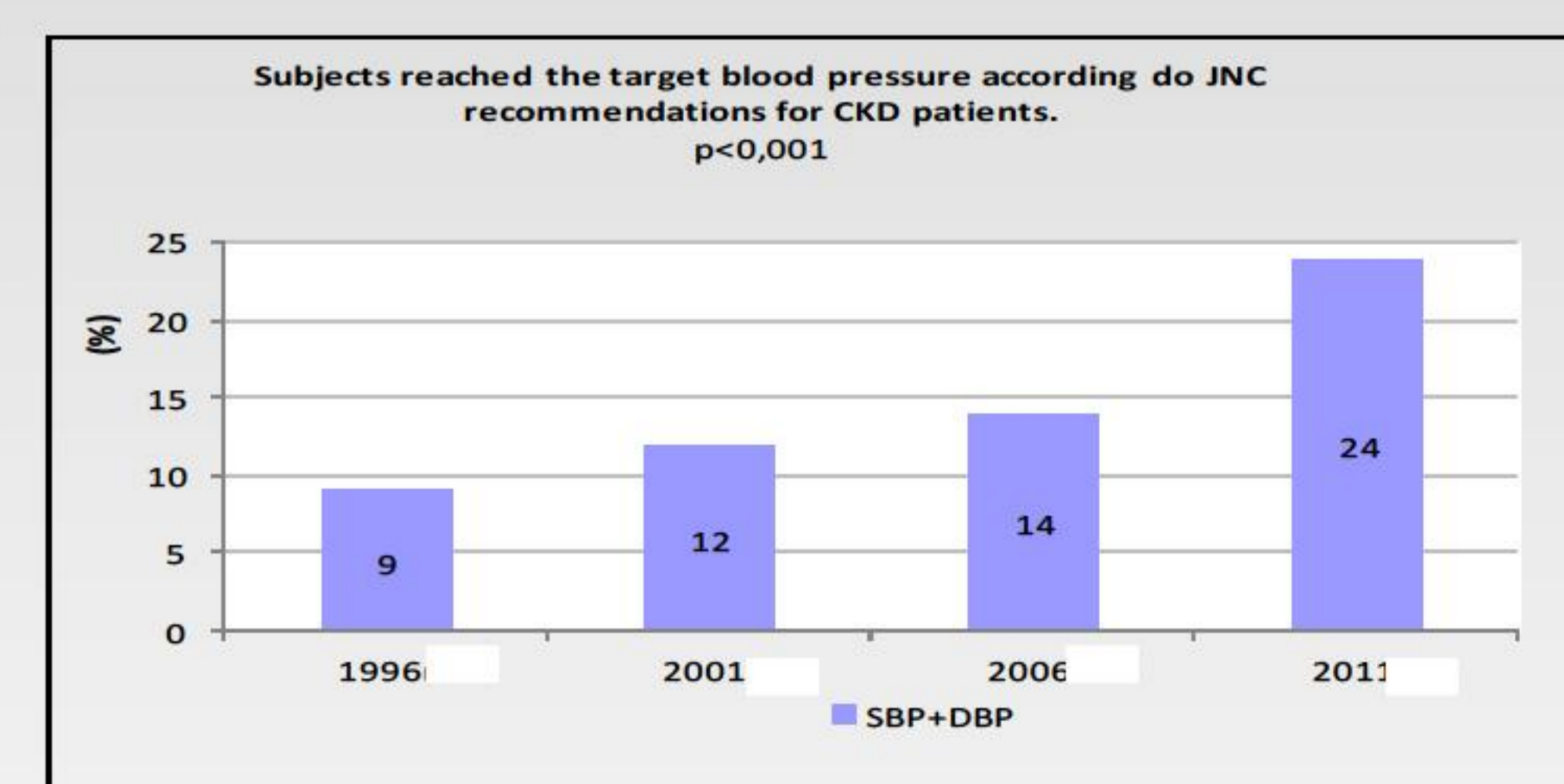
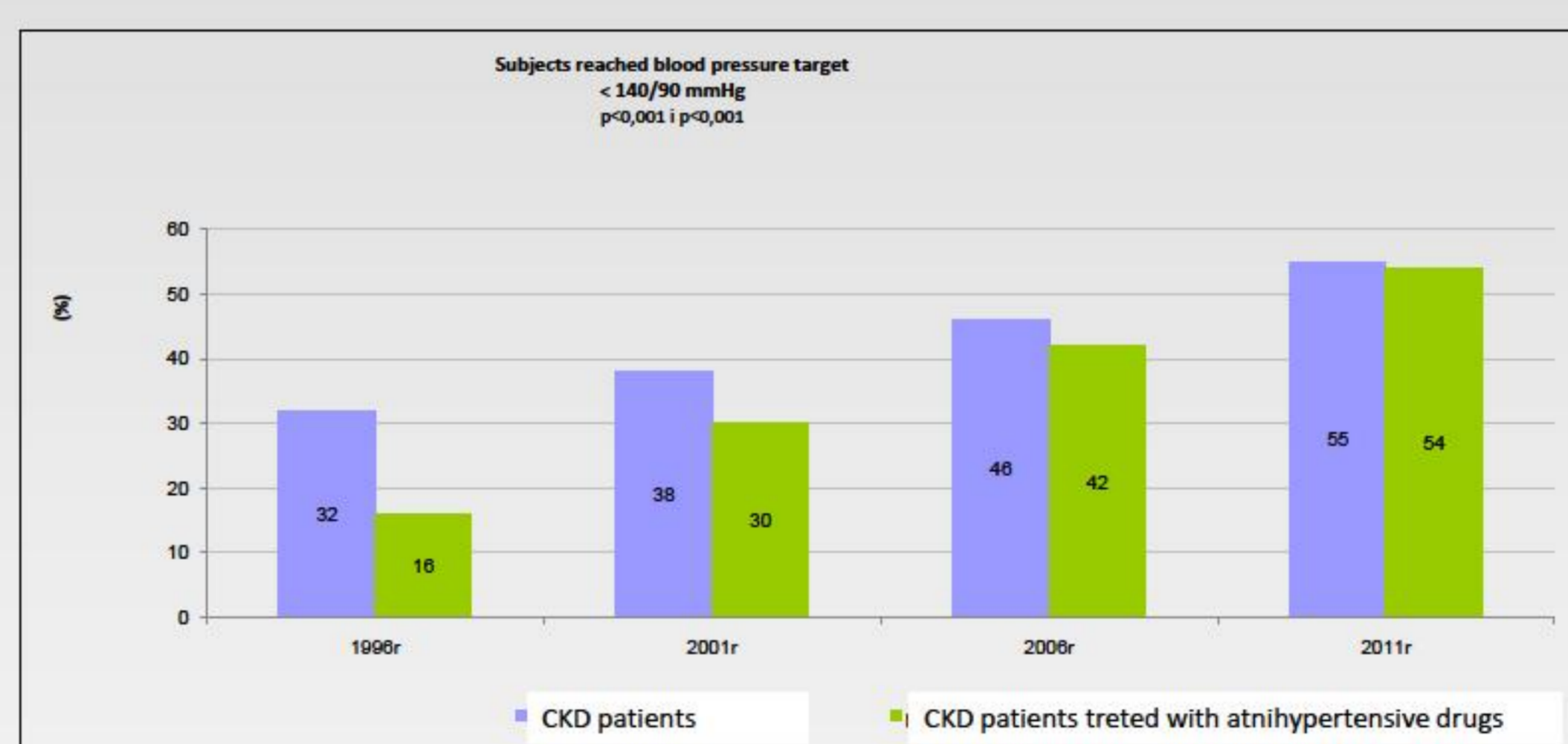
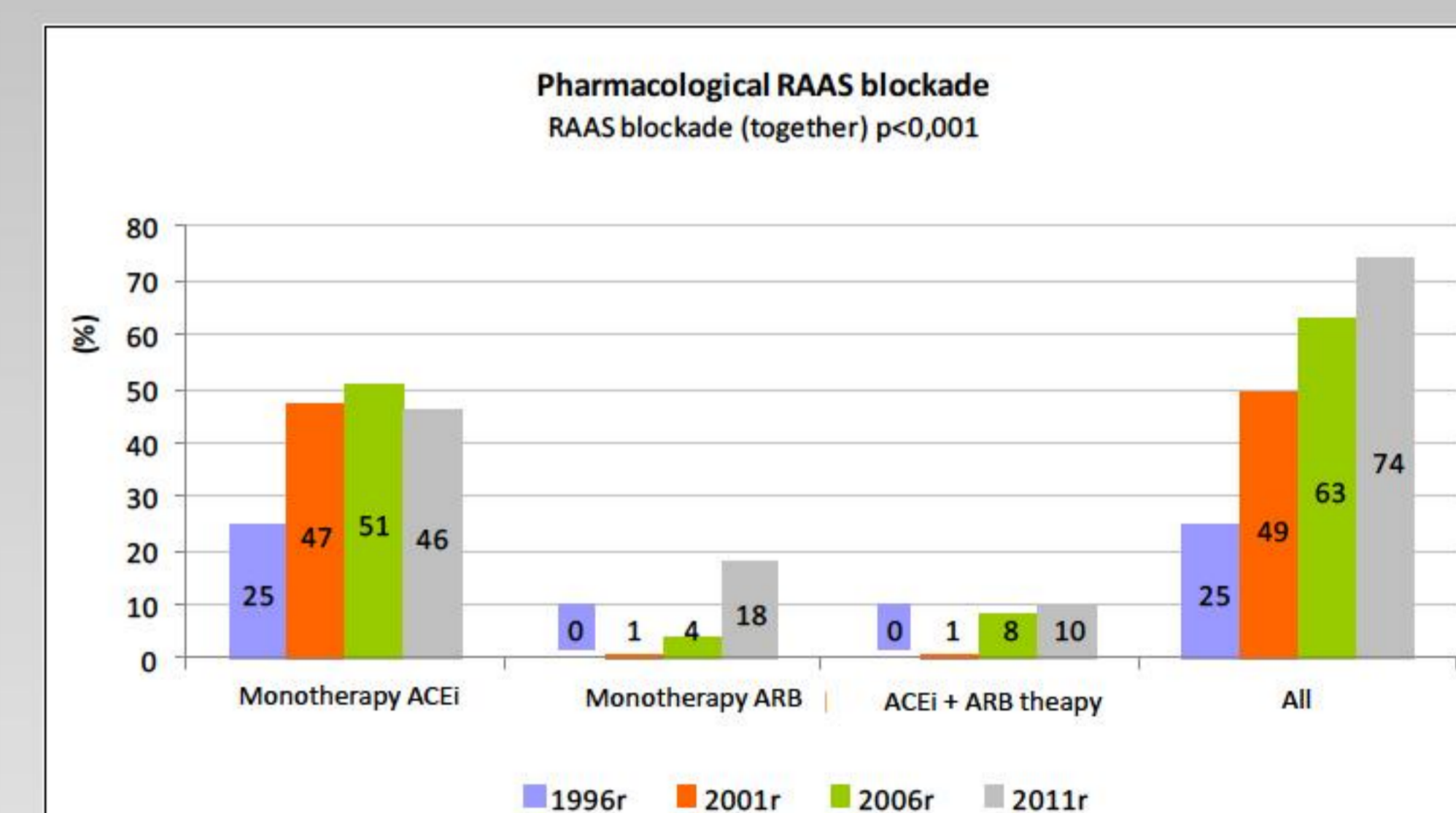
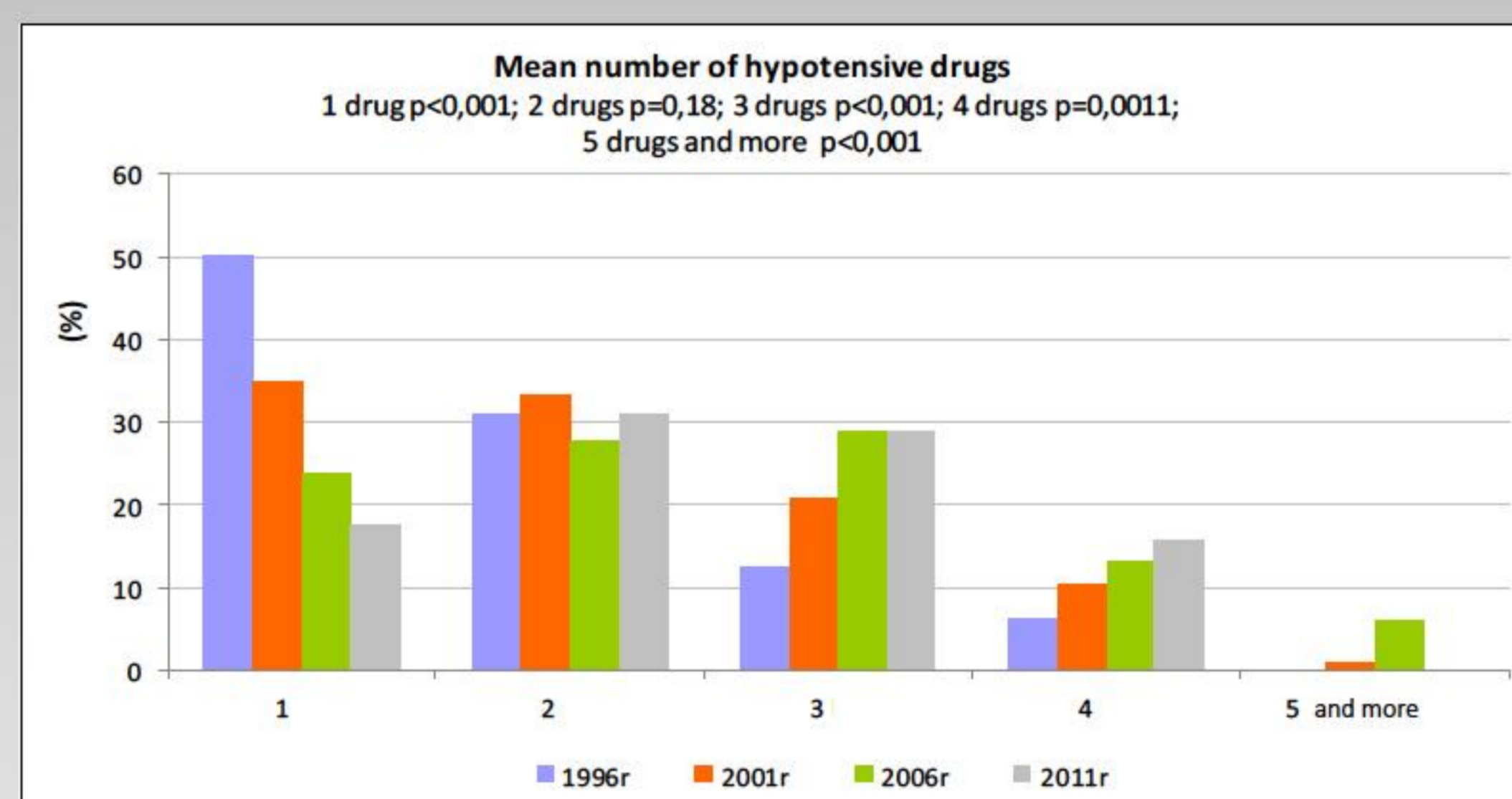
The retrospective, cross-sectional study was performed in 1996, 2001, 2006, and 2011 year in nondialysis patients with CKD. 190, 489, 1799 i 1695 medical documents of patients treated chronically in outpatient department of kidney diseases of the Medical University of Gdansk were screened respectively. Age, sex, eGFR, basal nephropathy, cardiovascular diseases, causal blood pressures, types and doses of hypotensive agents were recorded. Hypertension treatment efficacy was assessed as the compliance with the target blood pressure. Two different blood pressure thresholds were taken into account: the first one specific for general population i.e. less than 140/90 and second one dedicated specifically for CKD patients. Blood pressure target for CKD patients were derived from JNC recommendations (table 1). In secondary analyses patients were stratified according to eGFR, age, sex, CKD stage, proteinuria, cardiovascular and/or diabetes presence.

Recommended blood pressure for CKD patients

V JNC report (1992) force in 1996r	VI JNC report (1997) force in 2001r	VII JNC report (2003) force in 2006 and 2011
< 130/85 mmHg	< 130/85 mmHg and <125/75 mmHg when proteinuria > 1 g/24 hours)	< 130/80 mmHg

RESULTS

	1996	2001	2006	2011
Age	43.8	47.2	54.9	62.7
eGFR ml/min	66	56	54	51
Systolic BP mmHg	141.5	138.2	135.4	132
Diastolic BP mmHg	87.19	85.19	81.18	79
Patients below renal target (JNC) %	9	12	14	24
Patients below 140/90 %	16	30	42	54
Number of hypotensive agents mean	1.74	2.08	2.5	2.65
Angiotensin converting enzyme inhibitors %	25	48	59	56
Angiotensin II receptor blockers %	0	2	12	28
Beta-blockers %	44	39	48	56
Calcium channel blockers %	45	44	40	37
Diuretics %	36	50	58	66
Alfa-blockers %	0	6	18	17



CONCLUSIONS

The improvement of blood pressure control was observed in CKD patients. The mean number of hypotensive agents used in one patients increased. The most common hypotensive agents used in the treatment of hypertension are diuretics and drugs influencing on renin-angiotensin system.

In secondary analyses, significantly more patients reached the target blood pressure below 140/90 mmHg in the following stratum:

- patients in I-II stage of CKD
- patients without cardiovascular disease and/or diabetes
- patients below 65 years
- men (1996, 2001, 2006); women (2011)

