

TYPE 2 DIABETIC PATIENTS WITH NON ALBUMINURIC KIDNEY DISEASE HAVE SLOWER GFR DECLINE - AN OBSERVATIONAL, 24-MONTH PROSPECTIVE COHORT STUDY



Ivo Laranjinha^{1,2}, Patrícia Matias^{1,2}, Patrícia Branco^{1,2}, Sofia Mateus³, Carolina Gouveia³, Miguel Santos³, Patrícia Pereira³, Patrícia Vicente³, Rui Costa³, Ana Lourenço³, José Guia³, Luís Campos³, José Diogo Barata¹

¹ Nephrology Department, Hospital de Santa Cruz, Centro Hospitalar de Lisboa Ocidental, Carnaxide, Portugal.

² Nova Medical School | Faculdade de Ciências Médicas.

³ Department of Internal Medicine, Hospital S. Francisco Xavier, Centro Hospitalar de Lisboa Ocidental, Carnaxide, Portugal.

INTRODUCTION

- Diabetic kidney disease (DKD) is the main cause of end stage renal disease (ESRD) in developed countries^{1, 2};
- The development of kidney in type 2 diabetics is associated with increased cardiovascular (CV) and mortality risk³;
- Albuminuria was considered as the first clinical sign of DKD, however rising evidence has shown that an important number of diabetic patients had a decreased glomerular filtration rate (GFR) without significant albuminuria⁴.

AIMS

Evaluate the renal and CV outcomes in type 2 diabetic patients having declined GFR with and without albuminuria.

METHODS AND POPULATION

- Observational 24-month prospective cohort study of 74 type 2 diabetic patients with GFR < 60 mL/min
- Albuminuria was defined as a random urinary albumin/creatinine ratio (ACR) ≥ 30 mg/g
- Two groups according to their albuminuric status:
 - Non-albuminuric DKD (NA-DKD): n = 31 (42%)
 - Albuminuric DKD (A-DKD): n = 43 (58%)

Table I: Baseline characteristics

Age, years	74.4 ± 8.9
Gender, male	44 (59.5%)
Duration of diabetes (years), median	17 (11-28.5)
Hypertension (HTN)	68 (91.9%)
Baseline albuminuria, g/day	49.1 (11.5-163.3)
Baseline GFR, mL/min	45 (34.8-52.3)
Diabetic Retinopathy	15 (20.3%)

* Values are: mean ± SD, median(interquartile range) or frequencies[n(%)]

RESULTS

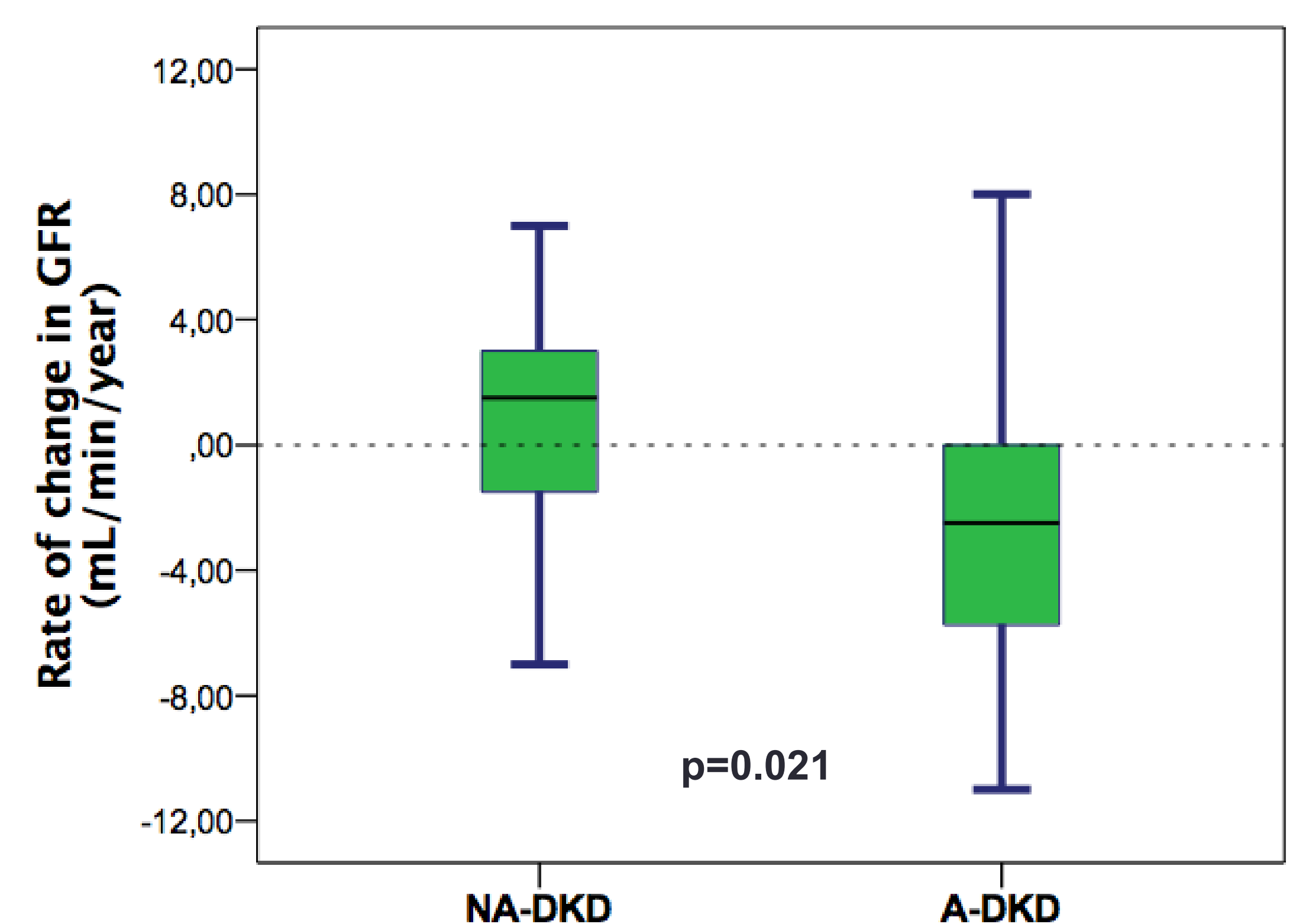
Age, gender, duration of DM, body mass index, smoke habits, metabolic control of DM, HTN prevalence and baseline GFR were not different between groups

Table II: Univariate analysis for the development of main outcomes.

	NA-DKD (n=31)	A-DKD (n=43)	p
GFR, mL/min	39 (30.3-50.8)	38 (28-51)	ns
Rate of change in GFR, mL/min/year	+0.5 (-1.75; +3.25)	-2.4 (-6.0; +0.5)	0.021
Doubling SCr or ESRD	0	7 (17.5%)	0.03
Haemoglobin, g/dL	12.2 ± 1.4	12.8 ± 1.7	ns
Systolic pressure, mmHg	130.7 ± 24.4	130.8 ± 23.3	ns
Diastolic pressure, mmHg	65.8 ± 9.2	67.0 ± 10.7	ns
Number of hypotensive drugs	3 (2.0-3.3)	3 (2.0-4.0)	ns
Diabetic Retinopathy	5 (19.2%)	10 (23.8%)	ns
CV events (Acute coronary syndrome or cerebrovascular accident) during the followup	2 (7.7%)	4 (9.8%)	ns

* Values are: mean ± SD, median(interquartile range) or frequencies[n(%)]

Rate of Change in GFR



This association was confirmed in a multivariate analysis adjusted to age, gender, baseline SCr and HTN (Linear Regression linear (F 5,57)=2.098, p=0.024)

CONCLUSIONS / DISCUSSION

- The evolution of CKD in diabetic patients with non-albuminuric phenotype is more indolent, with a slower decline of GFR
- According to the previous studies^{4, 5}, albuminuria > 30 mg/day was associated to a higher risk of doubling creatinine or ESRD
- At the 24-month follow-up, we did not find any difference amongst the other outcomes
- This knowledge could have screening, therapeutic and prognosis implications, which must be investigated in randomized controlled studies

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CONTACT OF THE FIRST AUTHOR:
ivolaranjinha@gmail.com

