

PATHOLOGICAL DIAGNOSIS IN DIABETIC PATIENTS WITH KIDNEY DISEASE: SPANISH MULTICENTER STUDY

Sheila Bermejo¹, Ester González², Ramona Ionela Stanescu³, Meritxell Ibernou⁴, Diana López⁵, Adoración Martín-Gómez⁶, Rosa Garcia⁷, Tania Linares⁹, Eduardo Hernández², Maria Isabel Martínez³, Irene Agraz⁴, José Pelayo Moirón⁵, Katia López³, Núria García⁵, Julio Pascual¹, Manuel Praga², Xavier Fulladosa⁸, María José Soler¹

(1) Department of Nephrology, Hospital del Mar, Barcelona, GLOSEN, GEENDIAB (2) Department of Nephrology, Hospital 12 de Octubre, Madrid, (3) Department of Nephrology, Hospital Universitario Fundación Alcorcón, Madrid, (4) Department of Nephrology, Hospital Vall d'Hebron, Barcelona, (5) Department of Nephrology, Clínica Universitaria de Navarra, Pamplona, (6) Department of Nephrology, Hospital de Poniente, Almería, (7) Department of Nephrology, Hospital de Palamós, Girona (8) Department of Nephrology, Hospital de Bellvitge, Hospitalet de Llobregat, (9) Department of Nephrology, Hospital Universitario Gregorio Marañón, Madrid.

INTRODUCTION & OBJECTIVES:

- Diabetic renal disease is a leading cause of end stage renal disease (ESRD) and renal replacement therapy (RRT).
- Renal biopsies performed in diabetic patients are increasing in number and complexity.

OBJECTIVES:

- To determine the predictability of the diagnosis of a renal biopsy (diabetic nephropathy or non-diabetic nephropathy) (DN or NDN) using clinical and analytical data from patients with diabetes mellitus (DM).

MATERIAL & METHODS:

- Multicenter retrospective descriptive study of the histological diagnosis of biopsies performed in 8 Spanish centers in diabetic patients between 2002 and 2014.
- We classified renal biopsies according to three categories: isolated diabetic nephropathy (DN), non-diabetic nephropathy (NDN) and both entities together.
- A total of 113 clinical variables (demographic characteristics (age, sex and race), relevant medical history, treatment, weight, height, systolic blood pressure and diastolic blood pressure) and 55 (48.7%) analytical variables were analyzed: (Renal function, urea, basal glycemia, HbA1c, proteinuria, microalbuminuria, protein / urine creatinine ratio, microhematuria, autoimmune markers and viral serologies).

Statistical analysis:

- Comparison of means by bivariate analysis between groups was performed using the t-student test (continuous variables) and the Chi-squared test (qualitative variables).
- Multivariate binary logistic regression analysis for variables potentially predictive of developing non-diabetic nephropathy against diabetic nephropathy.

RESULTS:

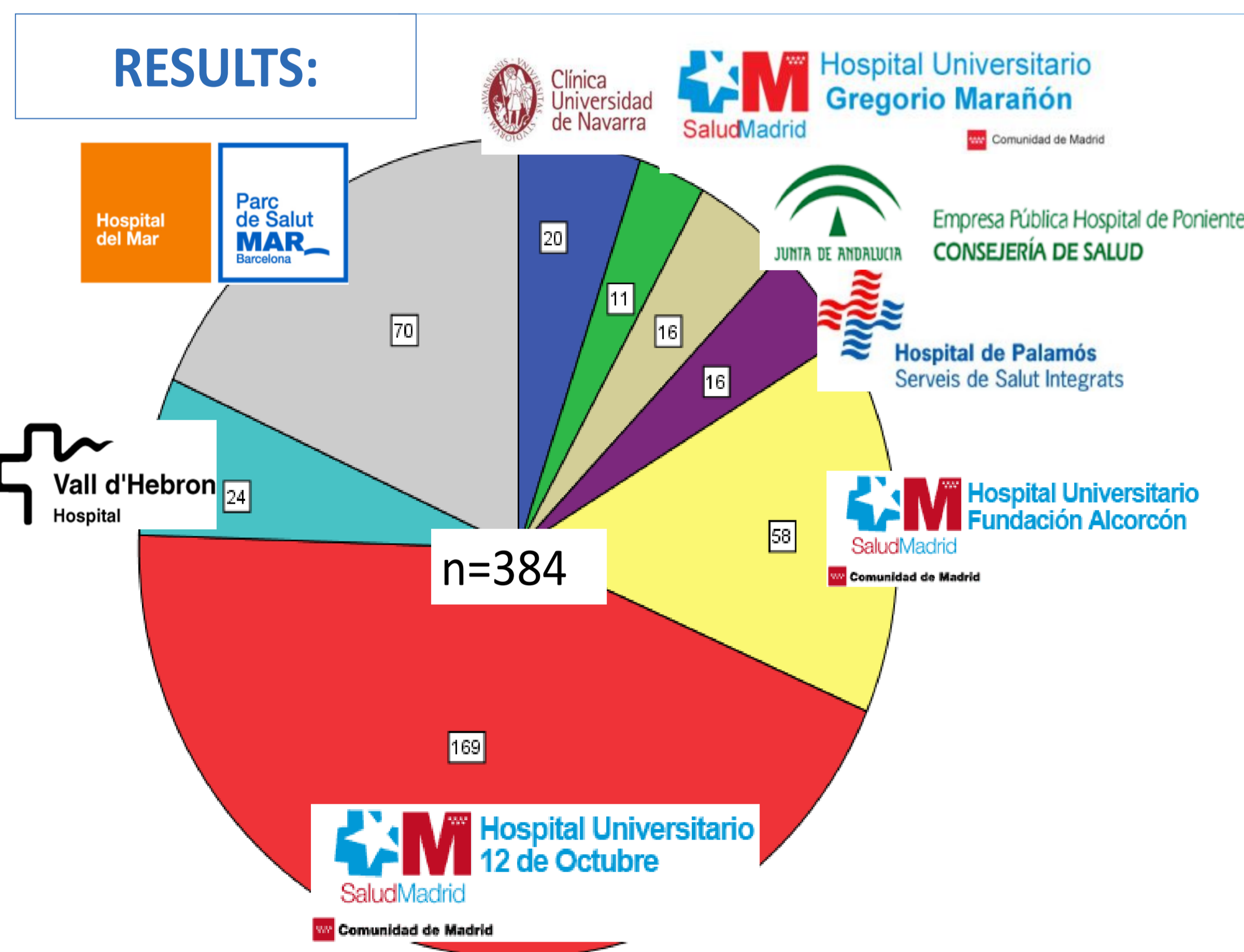


Figure 1: Participation of centers in the inclusion of patients

Characteristics	DN	DN + NDN	NDN
Number of patients (n)	172 (44,8%)	63 (16,4%)	149 (38,8%)
Age (years)	59,4 (±12)	62,8 (±13)	64,8 (±12)
Race			
Caucasian	73 (42%)	42 (67%)	84 (56%)
Asiatic	0	0	5 (3,4%)
Black	2 (1,1%)	2 (3,2%)	0
Unknown	4 (2,3%)	0	3 (2%)
Male sex	129 (75%)	52 (83%)	108(72%)
Evolution of DM (years)	11 (±7,4)	10,7 (±8,7)	8,2 (±7,2)
p<0,05 between DN and NDN			
Diabetic Retinopathy	76 (44%)	24 (38%)	16 (11%)
p<0,05 between DN and NDN			
p<0,05 between NDN and NDN+DN			
Creatinine (mg/dl)	2,4 (±1,3)	3,6 (±3)	2,8 (±1,9)
p<0,05 between DN and NDN			
p<0,05 between NDN and NDN+DN			
Proteinuria (gr/24h)	3,1 (±3,4)	3,6 (±4,4)	4,6 (±19,7)

Table 1: Baseline characteristics of population

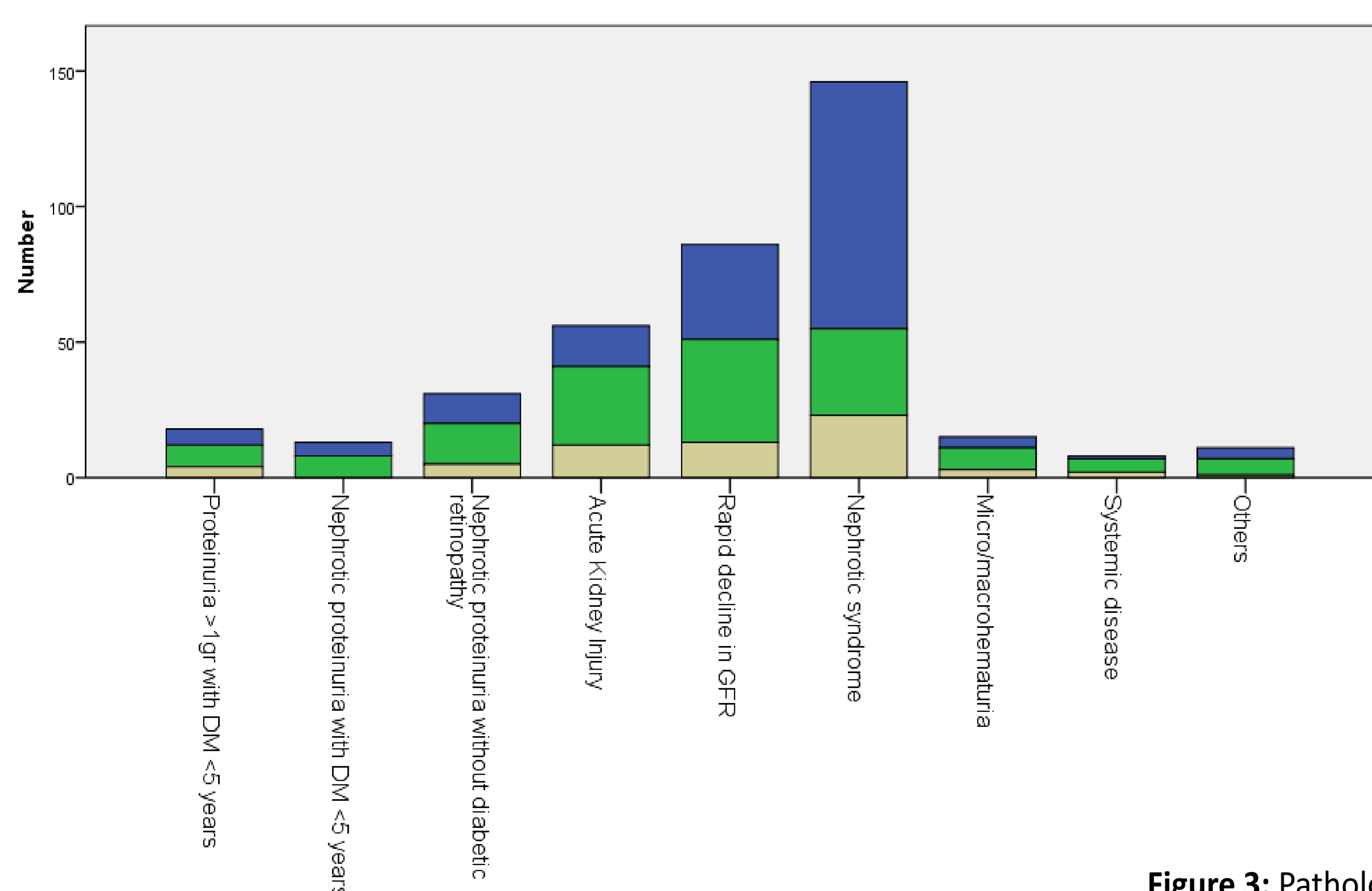
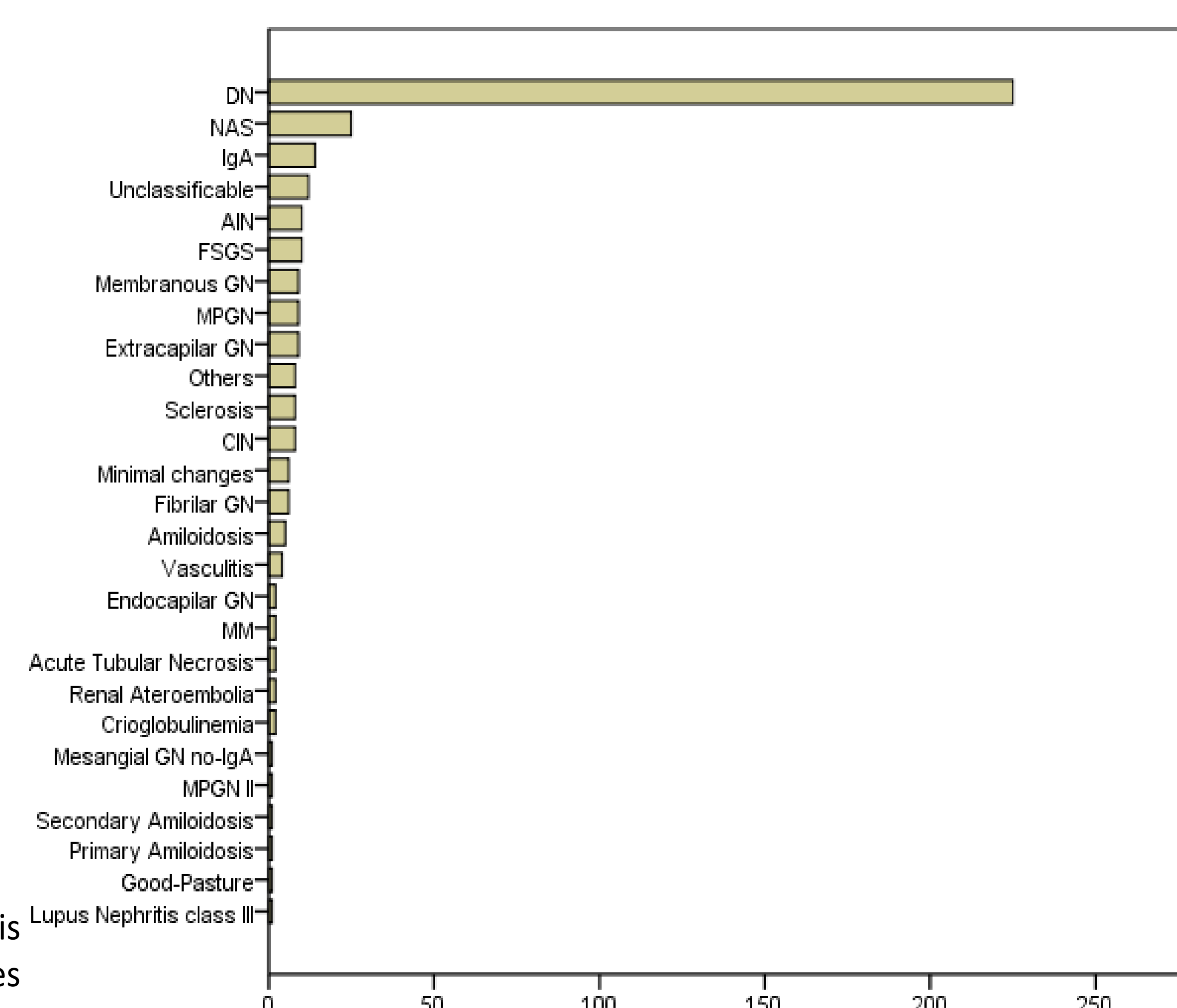


Figure 2: Indication of Renal Biopsy

Figure 3: Pathological diagnosis in renal biopsies



Variable	HR	CI (95%)	p
Evolution of DM	0,997	0,994-1	0,04
Age	1,04	1,014-1,059	0,001

Table 2: Logistic regression multivariate analysis of independent risk factors for NDN.

CONCLUSIONS:

- 51% of the diabetic patients biopsied in the Spanish centers presented a pathological diagnosis different to diabetic nephropathy.
- The most frequent NDN diagnosis was nephroangiosclerosis followed by IgA nephropathy.
- Elderly patients and short DM evolution were at an increased risk of biopsied NDN.

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