

# Spanish Registry of Glomerulonephritis Data from 16.000 renal biopsies

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**First International Renal Pathology Conference**  
**Venue: University A Coruña, A Coruña Spain**  
**June 9-12, 2010**



**A Joint meeting of the Renal Pathology Society, European Society of Pathology – Working Group, and the Spanish Pathology Society**



[www.seap.es](http://www.seap.es)



[www.nephropathology-esp.org](http://www.nephropathology-esp.org)



Spanish Society of Nephrology



# Introduction

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- The knowledge of the epidemiology of biopsied renal diseases provides useful information about pathology and clinico-pathologic correlations
- The Spanish Registry of Glomerulonephritis has investigated the epidemiology of biopsied renal diseases since 1994

# Spanish Registry of Glomerulonephritis.

## Aims

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- To study the epidemiology of native renal diseases in Spain
- To know the prevalence and incidence of biopsied renal diseases
- To study the relationship between clinical data and histologic patterns

# Worldwide distribution of glomerular diseases: the role of renal biopsy registries

Francesco Pesce and Francesco Paolo Schena

**Table 1.** Worldwide distribution of biopsy-proven glomerular diseases

Country	Reference	Primary GN (%)	Secondary GN (%)
America			
USA	3	IgAN (22) <sup>a</sup>	LN (13) <sup>a</sup>
Brazil	1	FSGS (25) <sup>b</sup>	LN(42) <sup>b</sup>
Europe			
Italy	5	IgAN (37) <sup>b</sup>	LN (26) <sup>b</sup>
Spain	7	IgAN (17) <sup>a</sup>	LN (11) <sup>a</sup>
Czech Republic	8	IgAN (34) <sup>b</sup>	LN (23) <sup>b</sup>
Hungary	10	IgAN (15) <sup>a</sup>	LN (7) <sup>a</sup>
Macedonia	11	MN (13) <sup>b</sup>	
Romania	12	MPGN (29) <sup>b</sup>	LN (29) <sup>b</sup>
Serbia	13	Non-IgA mesangioproliferative (25) <sup>b</sup>	LN (76) <sup>b</sup>
UK	21	IgAN (39) <sup>b</sup>	
Asia			
China	14	IgAN (45) <sup>b</sup>	LN (54) <sup>b</sup>
Korea	16	IgAN (28) <sup>b</sup>	LN (9) <sup>b</sup>
Middle East			
Saudi Arabia	17	FSGS (21) <sup>b</sup>	LN (57) <sup>b</sup>
Australia	18	IgAN (34) <sup>a</sup>	LN (14) <sup>a</sup>

## REGISTRO DE GLOMERULONEFRITIS

Sociedad Española de Nefrología

<b>AÑO</b>	<b>HOSPITAL</b>	<b>POBLACION</b>
<b>INICIALES</b>		
<b>EDAD</b> años	<b>FECHA NACIMIENTO</b> / /	<b>SEXO:</b> masculino femenino
<b>HTA:</b> si/no	<b>Creatinina:</b> mg/dl	<b>CCr:</b> ml/min/1.73m <sup>2</sup>
<b>Proteinuria</b> g/día/1.73 m <sup>2</sup>	<b>Sedimento:</b>	1) macrohematuria 2) microhematuria 3) leucocituria 4) cilindruria 5) telescopado 6) normal
<b>Tiempo de evolución:</b>	meses	

### Síndrome clínico principal:

- |                                |                                   |
|--------------------------------|-----------------------------------|
| 1) Sínd. Nefrótico             | 5) Insuficiencia renal aguda      |
| 2) Sínd. Nefrítico agudo       | 6) Insuficiencia renal crónica    |
| 3) Alt. Urinarias persistentes | 7) Hematuria macroscópica aislada |
| 4) Hipertensión arterial       | 8) Hematuria recidivante          |

**Nº de biopsia:** 1ª 2ª 3ª

**Método de estudio:**

**Nº de glomérulos:**

- 1) solo microscopio óptico
- 2) solo inmunofluorescencia
- 3) MO + IF
- 4) MO + IF + electrónico

### DIAGNÓSTICO HISTOLOGICO:

- |                           |                      |                               |
|---------------------------|----------------------|-------------------------------|
| 1) Mínimos cambios        | 8) Mesang. no-IgA    | 18) NAE benigna               |
| 2) GN Segmentaria Focal   | 9) GN fibrilar       | 19) NAE maligna               |
| 3) GN Prolif. endocapilar | 10) N. lúpica        | 20) MA Trombótica             |
| 4) GN extracapilar        | 11) Colagenosis      | 21) Enf. Ateroembólica        |
| a) tipo I                 | 12) Vasculitis       | 22) Necrosis Tubular Aguda    |
| b) tipo II                | 13) Goodpasture      | 23) Riñón de Mieloma          |
| c) tipo III (vasculitis)  | 14) Crioglobulinemia | 24) Nefritis Interst. Aguda   |
| 5) GNMC                   | 15) Amiloidosis      | 25) Nefritis Interst. Crónica |
| a) tipo I                 | a) primaria          | 26) Inclasificable            |
| b) tipo II                | b) secundaria        | 27) Esclerosa                 |
| 6) N Membranosa           | 16) Cadenas ligeras  | 28) Otra:                     |
| 7) Mesangial IgA          | 17) N. diabetica     |                               |

Microsoft Access - [Casos]

Archivo Edición Ver Insertar Formato Registros Herramientas Ventana ?

**FORMULARIO DE CASOS**

**Sedimento**

**Año:**  **Evolución (años)**

**Hospital**

**1ª Inicial**  **Síndrome principal**   
(indicación de la biopsia)

**2ª Inicial**

**Inicial Nombre**  **Método**

**Edad (años)**  **Nº Biopsia**

**Fecha Nacimiento**  **Nº Glomérulos**

**Sexo**

**HTA**

**Cr sérica (mg/dl)**  **Diagnóstico biopsia** 25  Nefropatía intersticial crónica

**CCR (ml/min)**

**Proteinuria (g/día)**

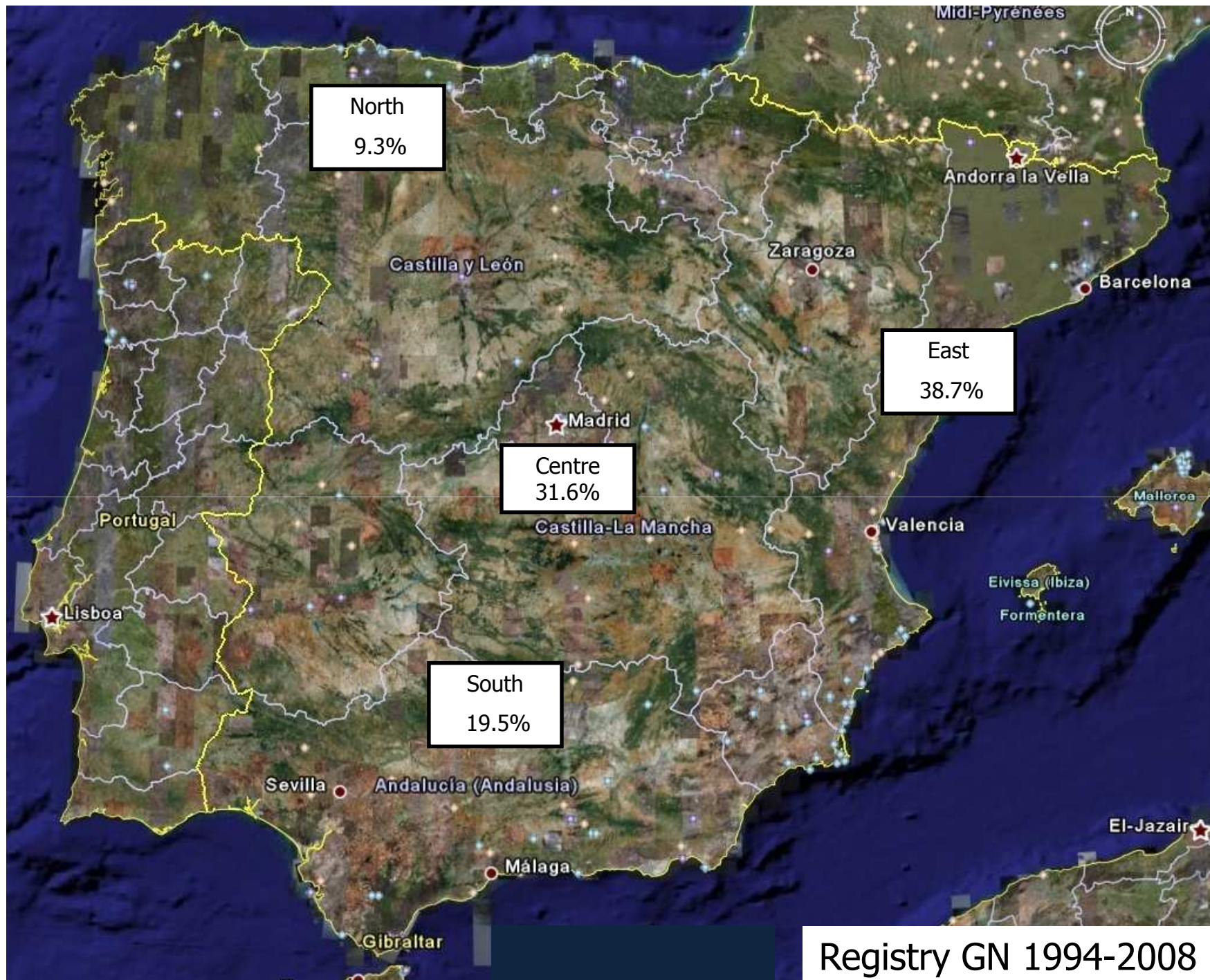


<http://www.senefro.org>

# Spanish Registry of Glomerulonephritis

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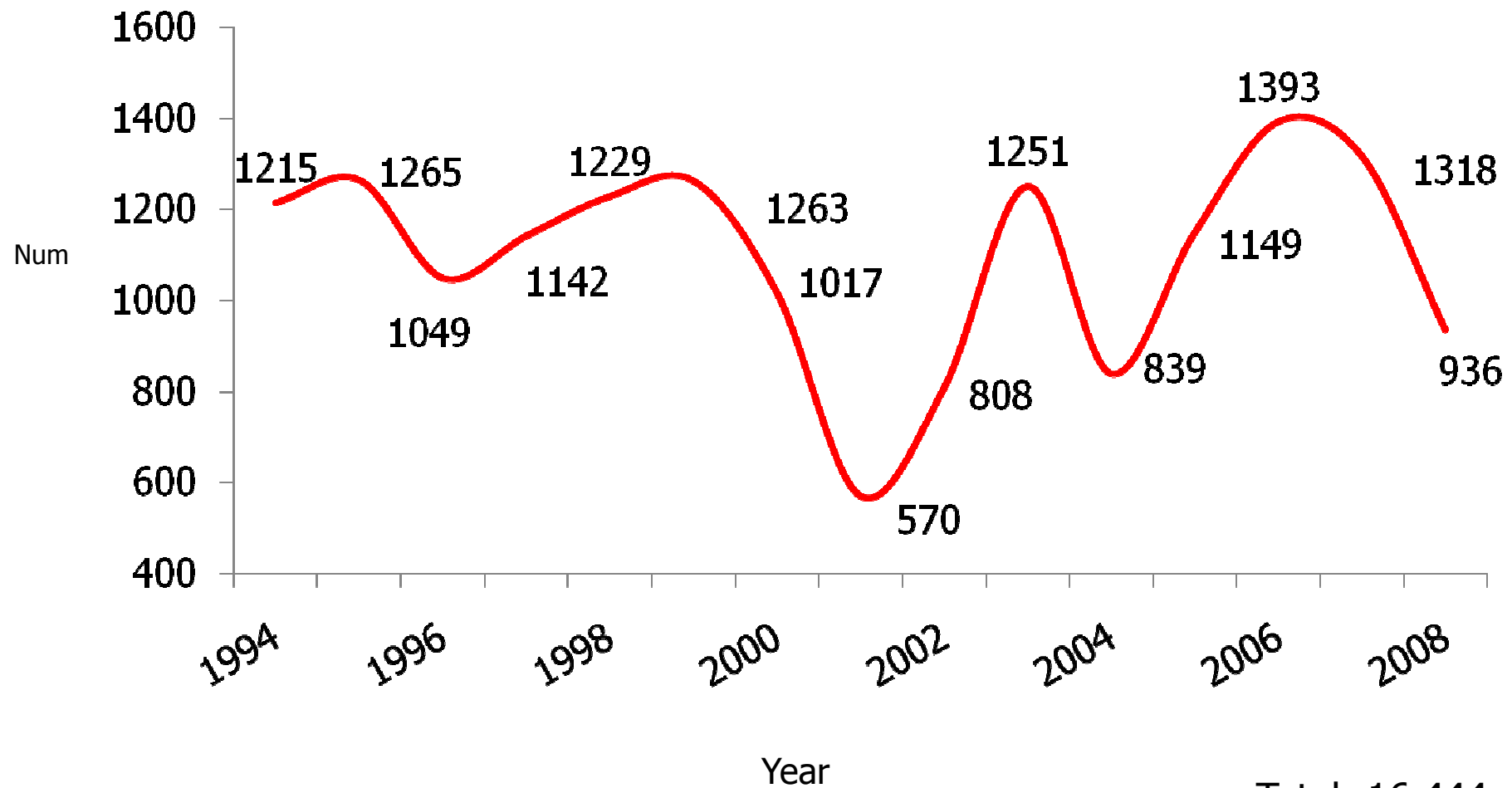
- Period: 1994-2008 (15 years)
- Native renal biopsies (no allograft biopsies)
- Participating centres: 120
- Total number of renal biopsies: 16.444



Registry GN 1994-2008

# Evolution in the number of renal biopsies

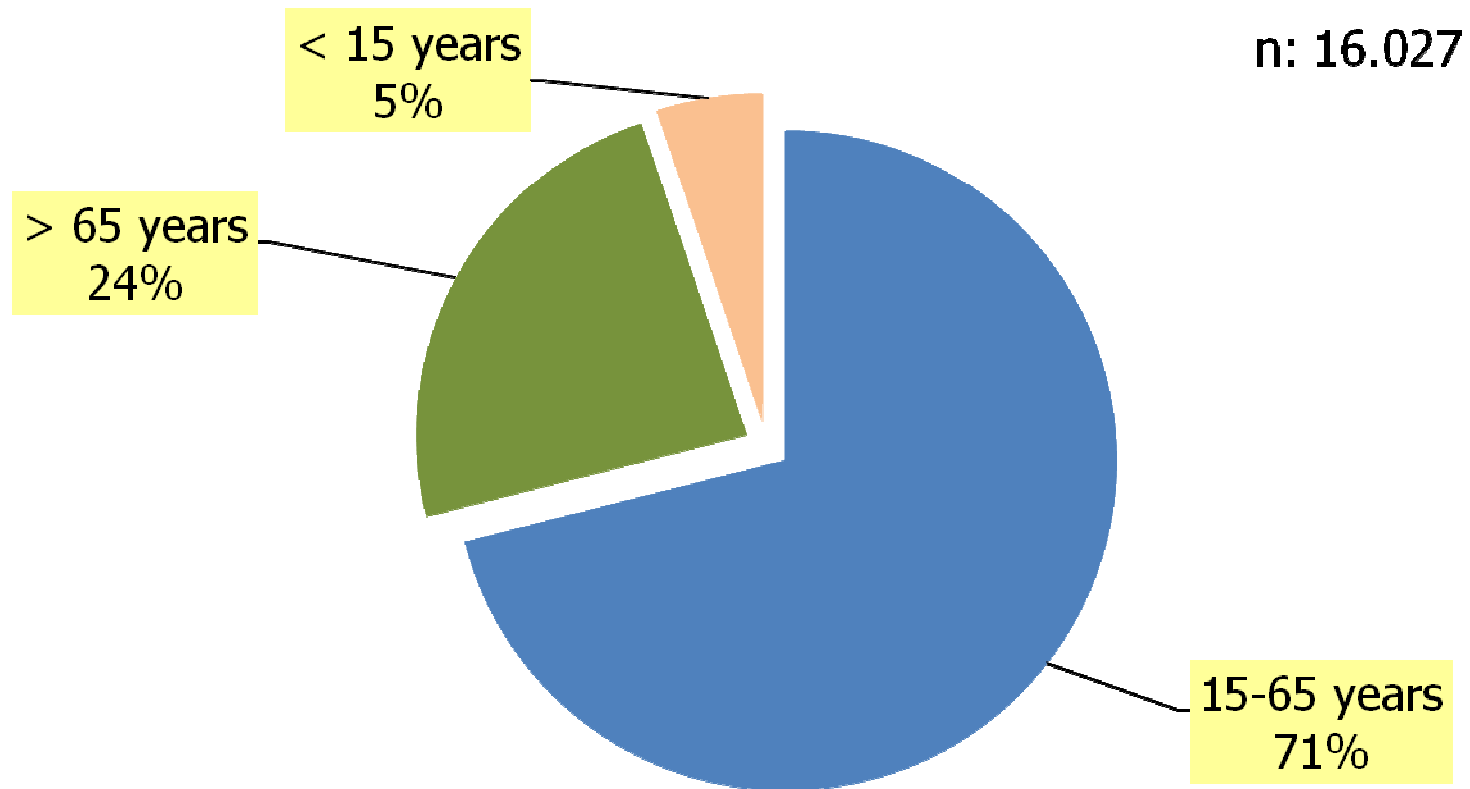
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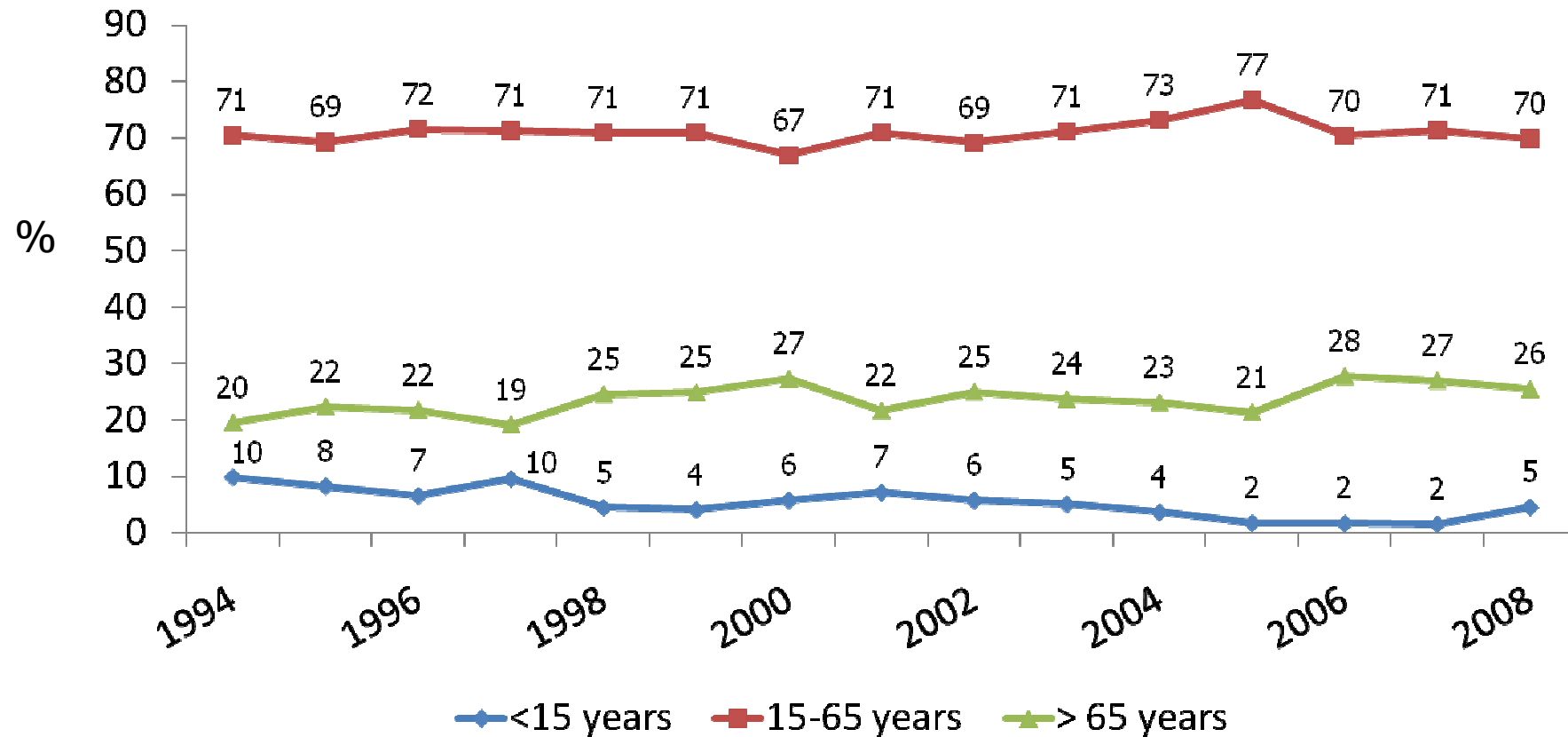
Total: 16.444

# Distribution according to age

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# Annual evolution according to the group of ages



P<0.0001

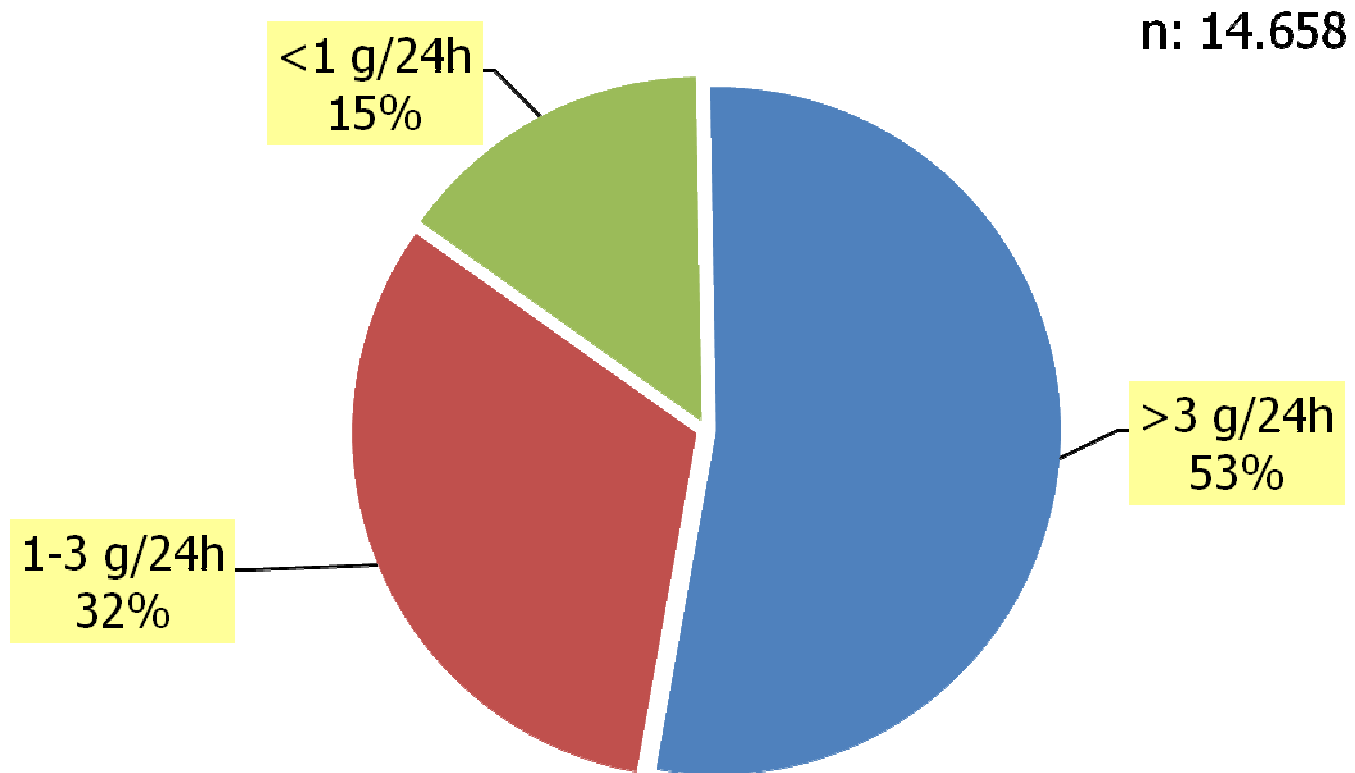
# General data (1)

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	Gender (M/F)	Arterial Hypertension (%)
<15 years n: 830	1.3	16.7
15-65 years n: 11.374	1.5	50.2
>65 years n: 3.809	1.5	64.4
Total number n: 16.013	1.5	51.8

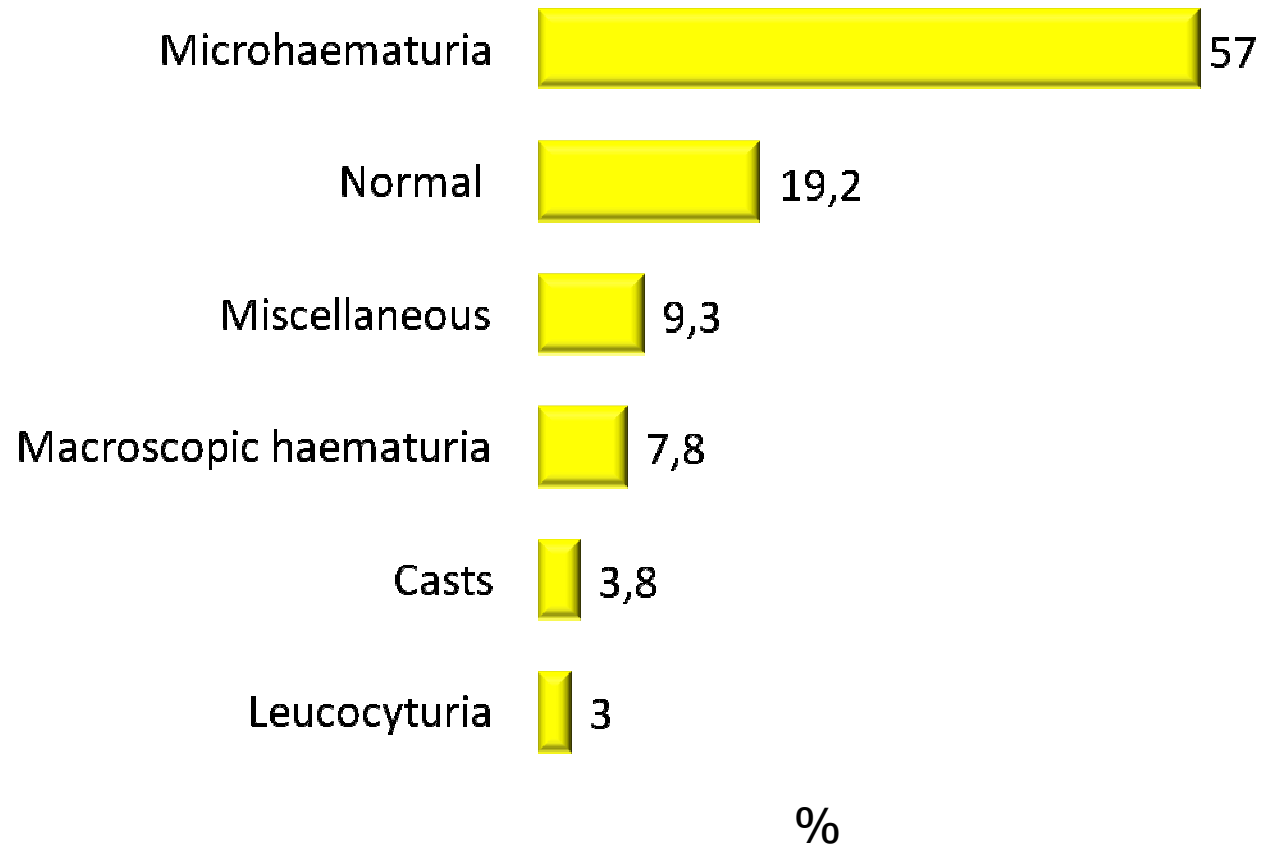
# Proteinuria classification

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# Urinary sediment

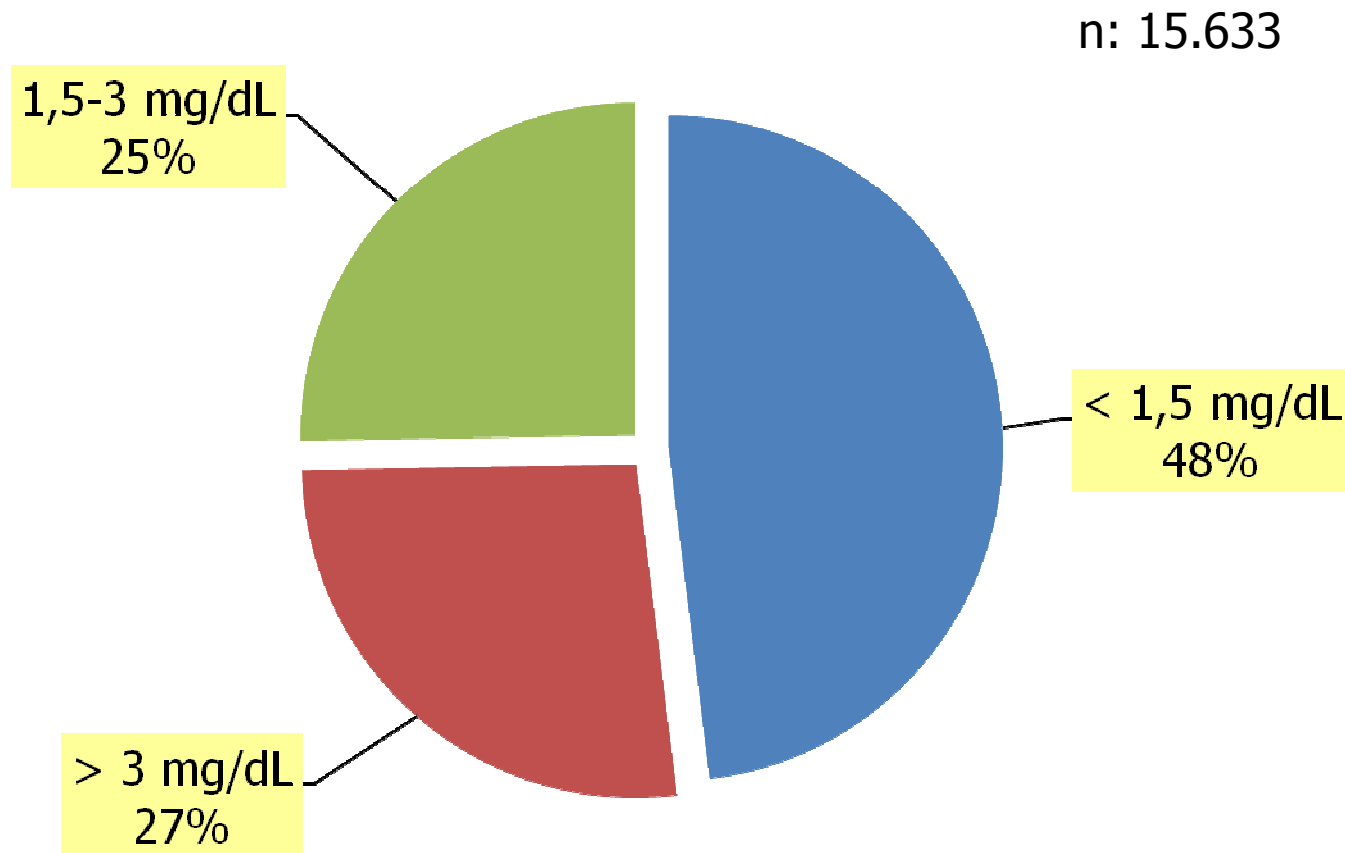
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n: 14.362

# Serum creatinine distribution

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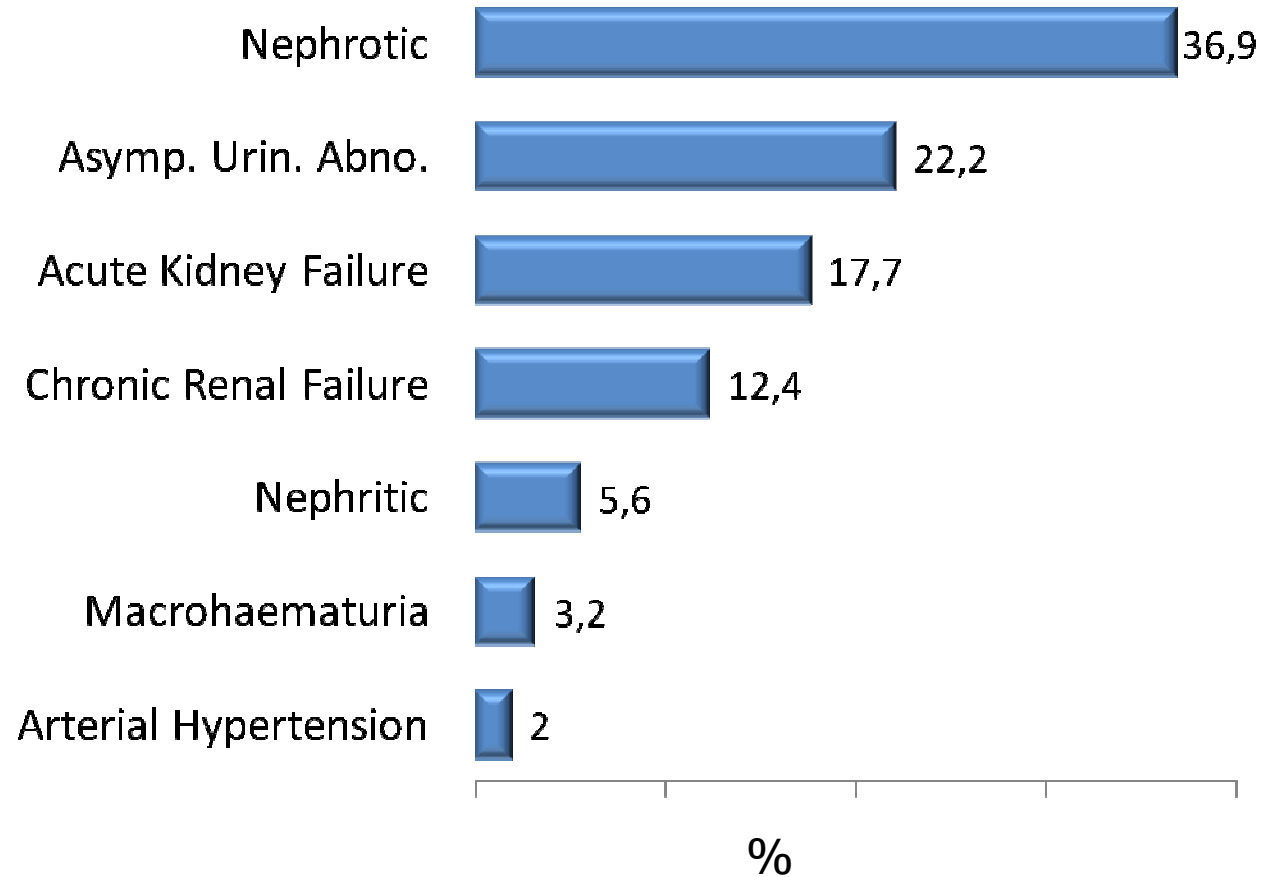
# General Data (2)

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	Age (median)	Serum Creatinine (median)	C <sub>cr</sub> (median)	Proteinuria (median)	Number of glomeruli (median)
<15 years n: 831	9	0.6	114	2.3	15
15-65 years n: 11.384	42	1.4	69	3	12
>65 years n: 3.812	72	2.8	25	3	11
Total n: 16.027	47	1.5	60	3	12

# Renal syndromes

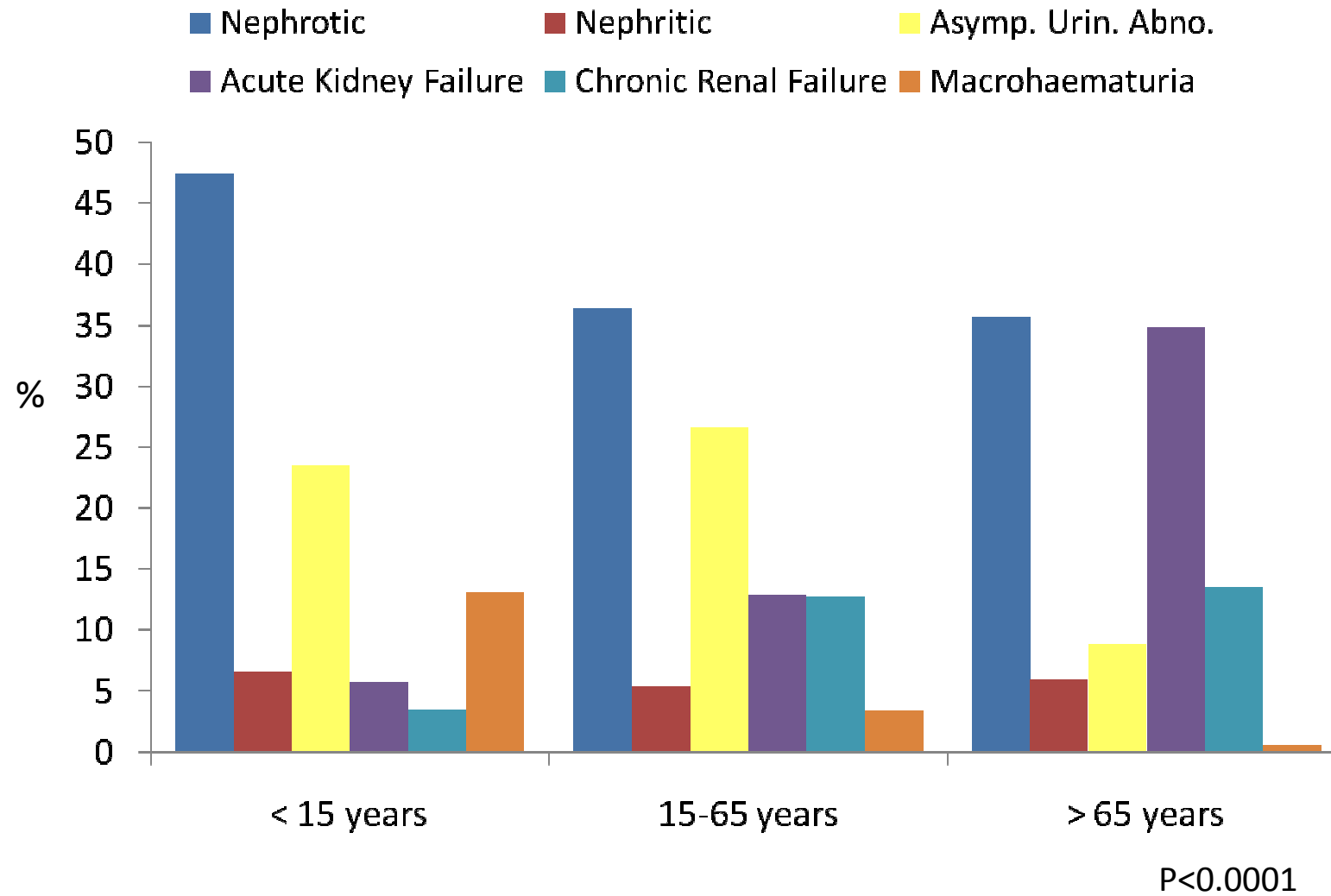
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n: 15.707

## Distribution of syndromes according to age

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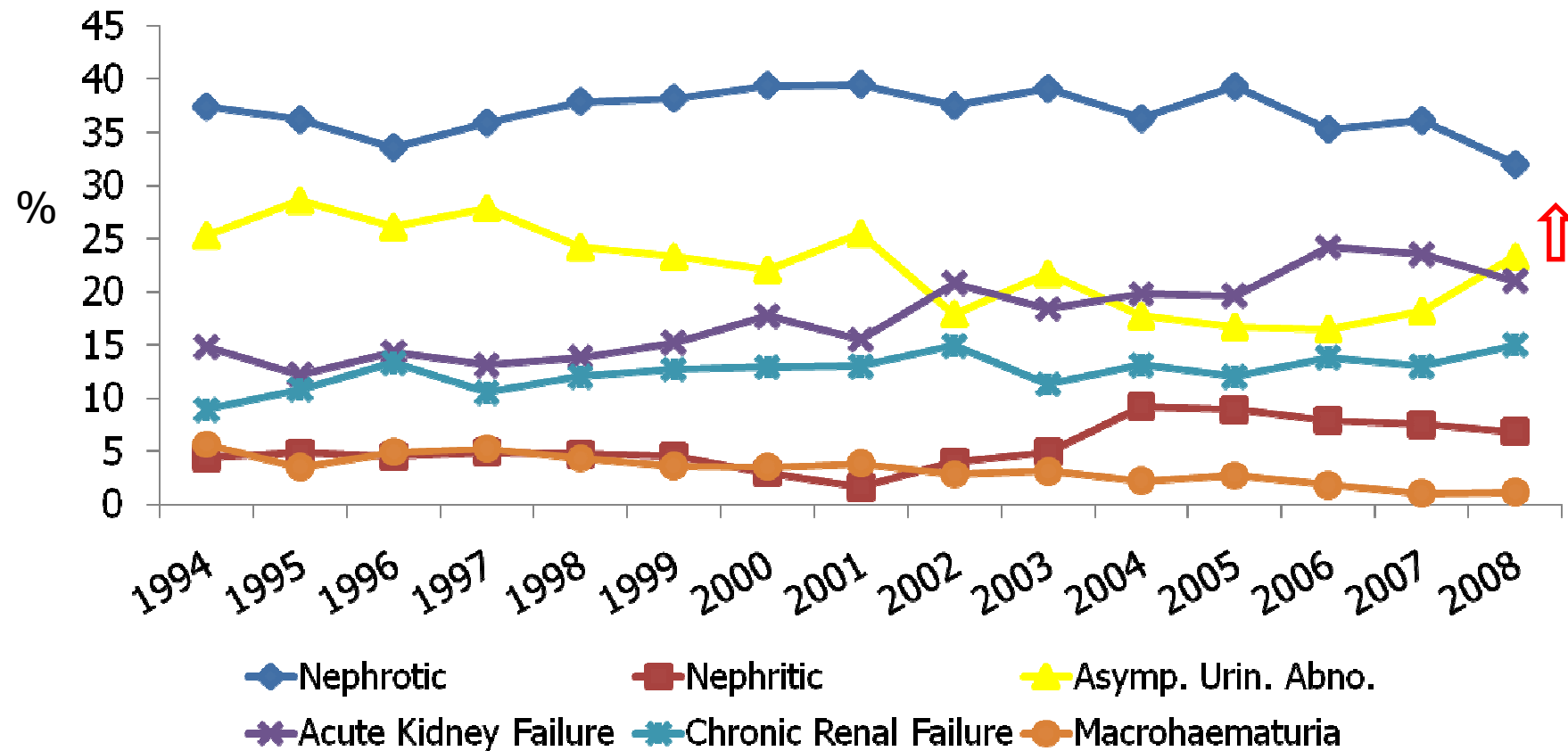


## General Data (3)

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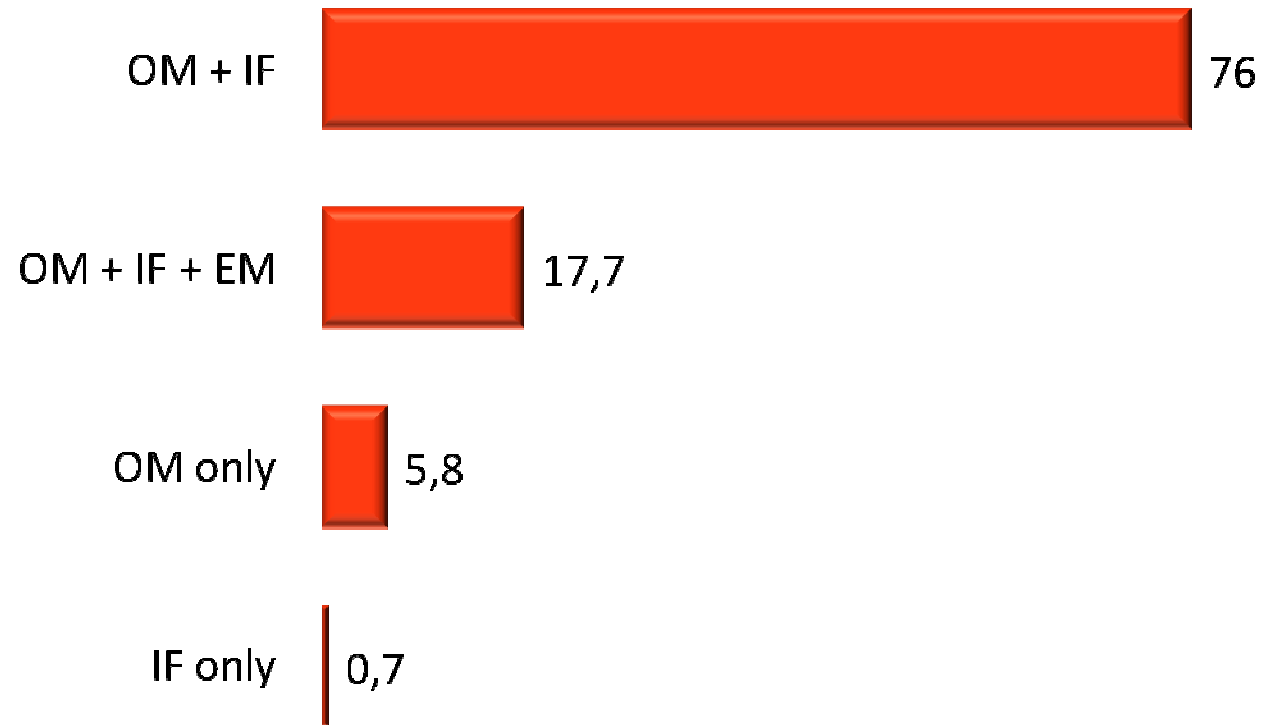
	Nephrotic	Nephritic	Asymp. Urin. Abno.	Acute Kidney Failure	Chronic Renal Failure	Macrohae maturia
< 15 years n: 810	47.4	6.5	23.5	5.7	3.5	13.1
15-65 years n: 11.056	36.4	5.4	26.6	12.9	12.7	3.4
> 65 years n: 3.690	35.6	5.9	8.8	34.8	13.5	0.6
Total N: 15.562	36.8	5.6	22.2	17.7	12.4	3.3

# Evolution of renal syndromes



# Histological technique

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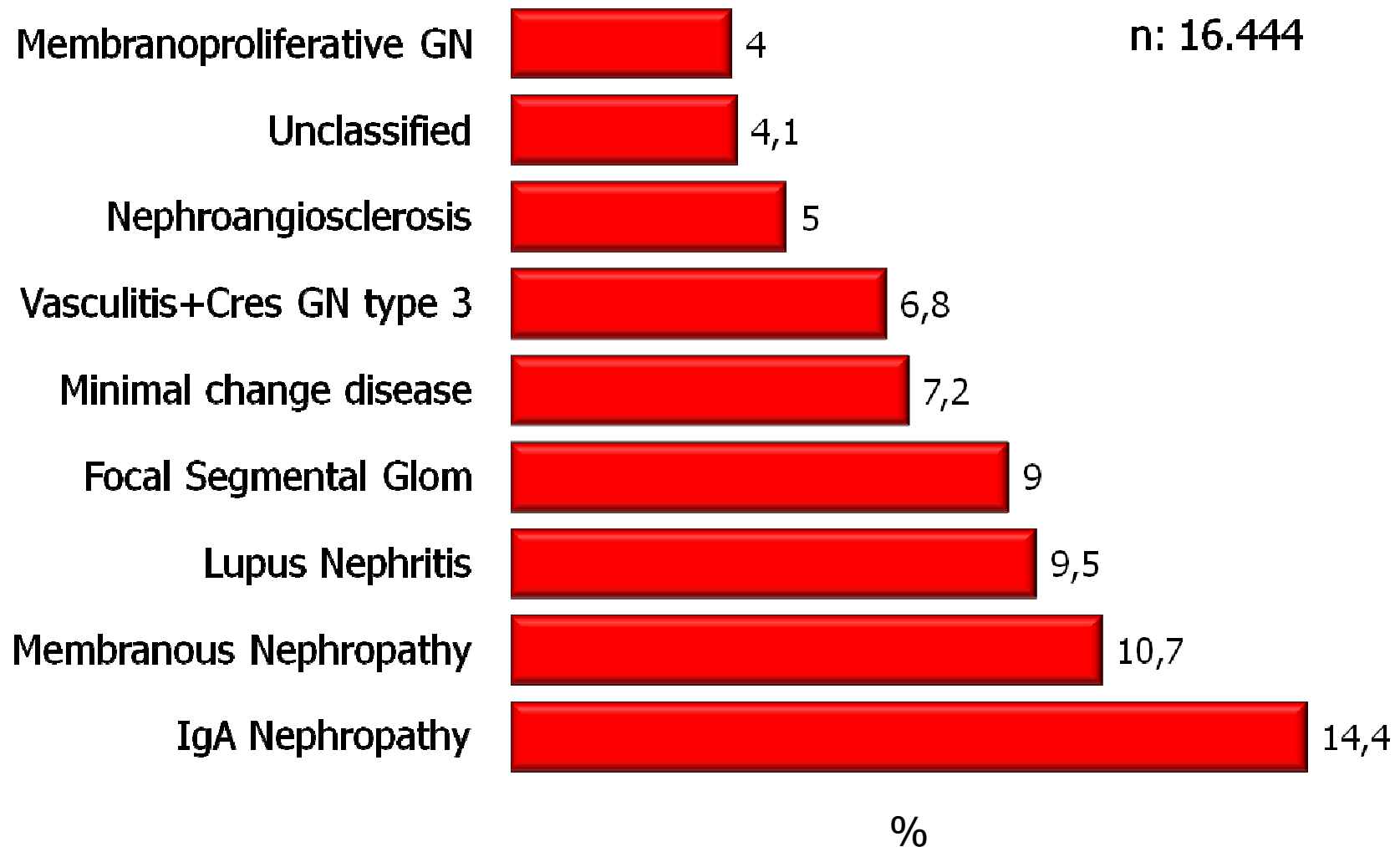


%

n: 15.480

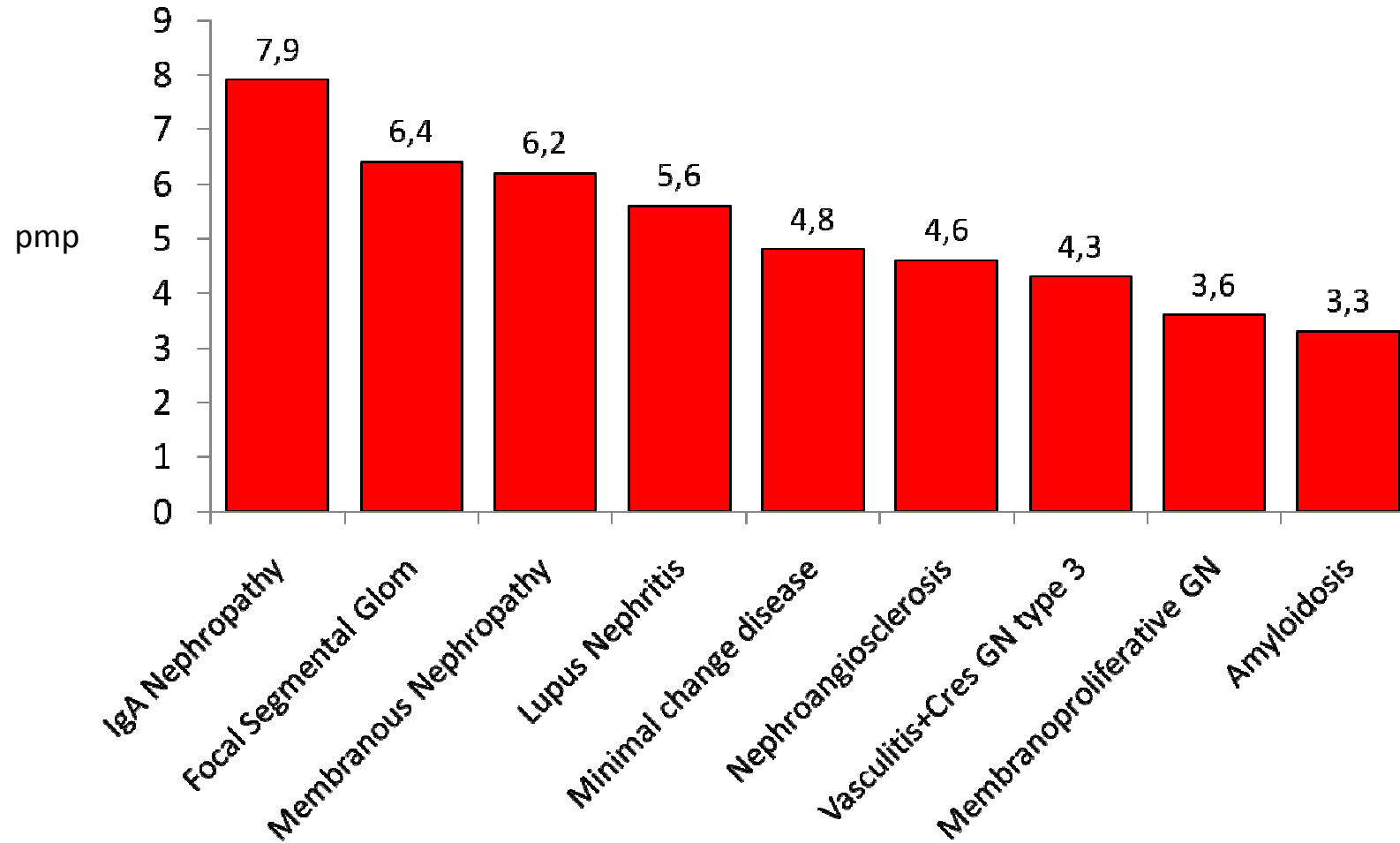
# OVERALL PREVALENCE OF BIOPSIED RENAL DISEASES

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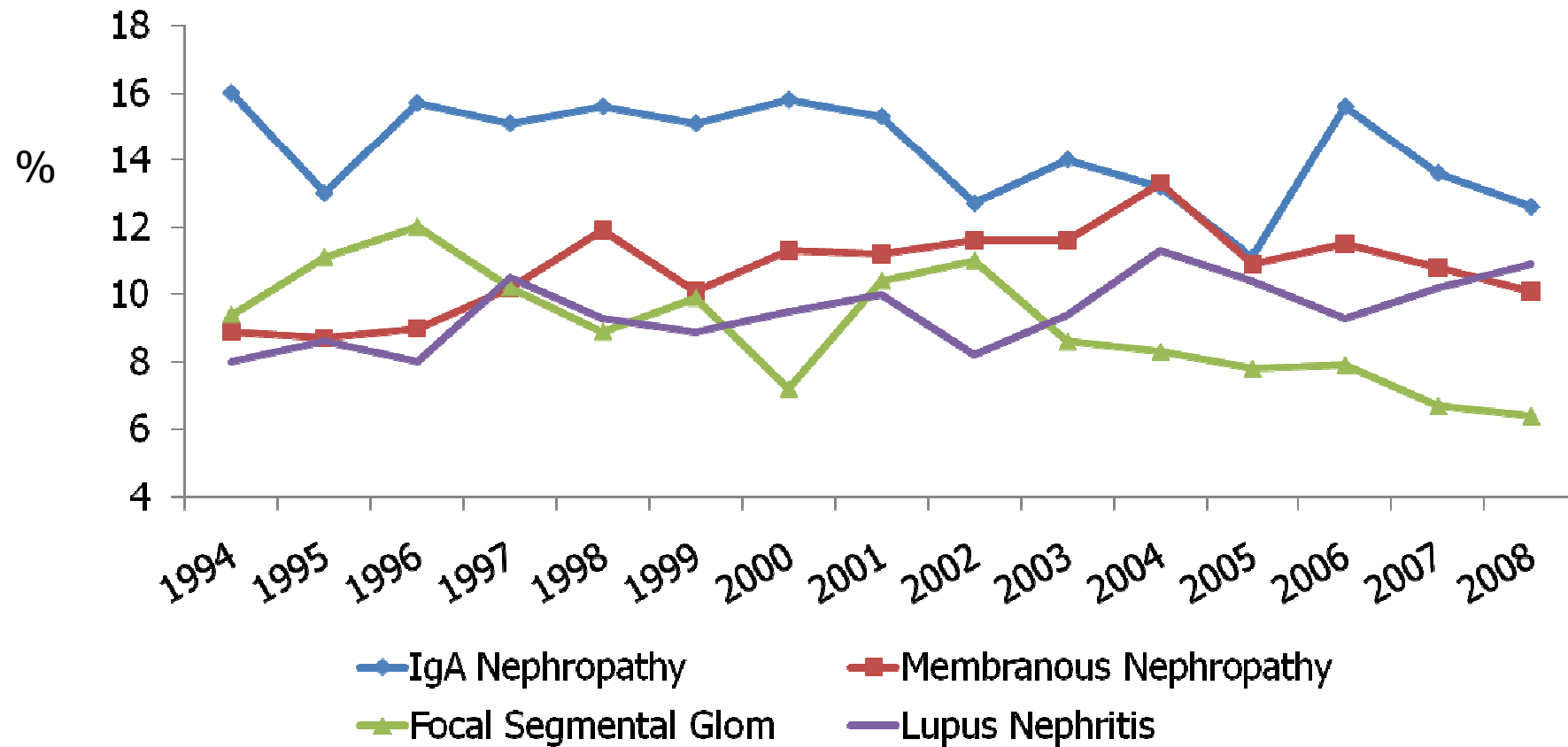
# OVERALL INCIDENCE OF BIOPSIED RENAL DISEASES

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# Overall evolution of percentages in main diseases

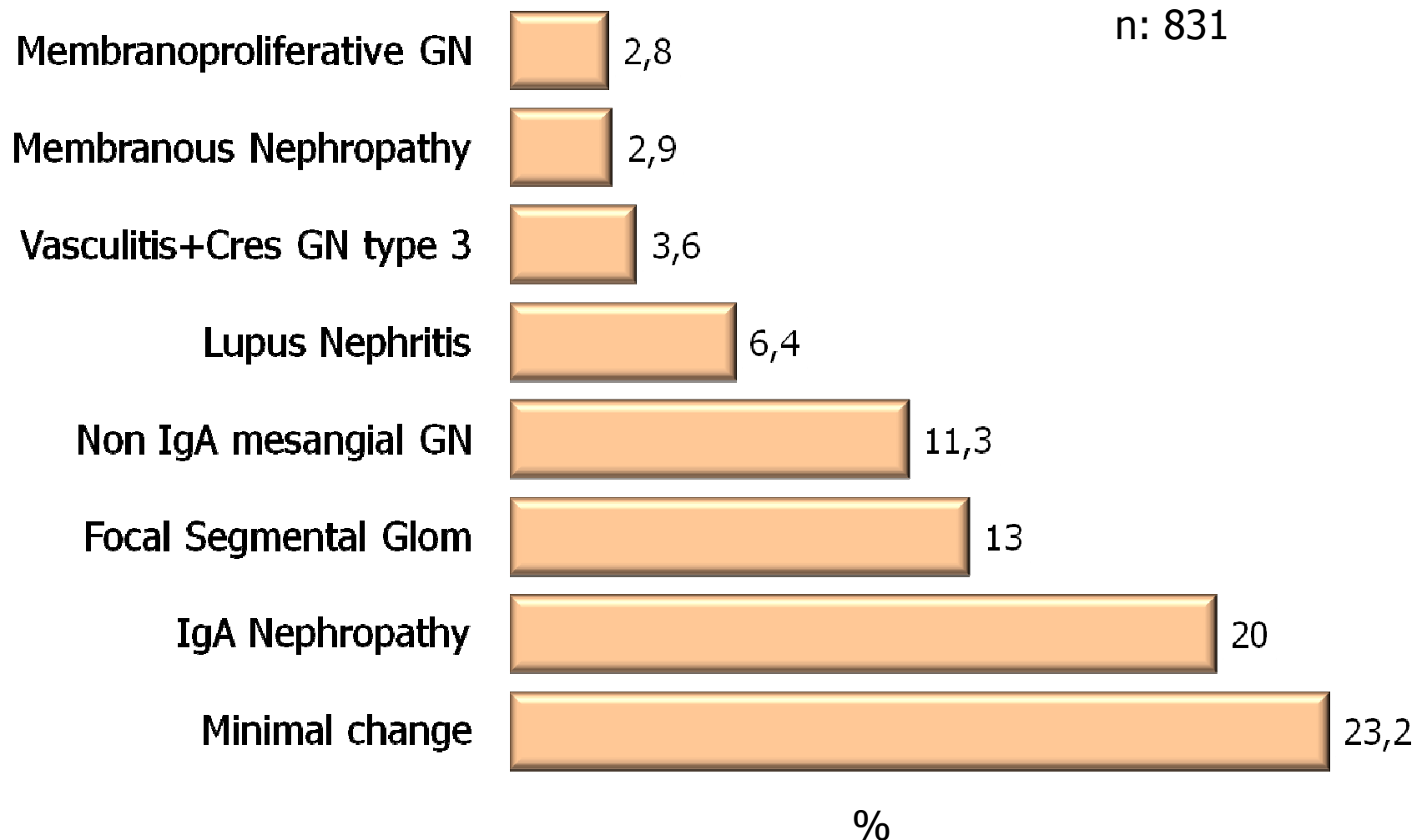
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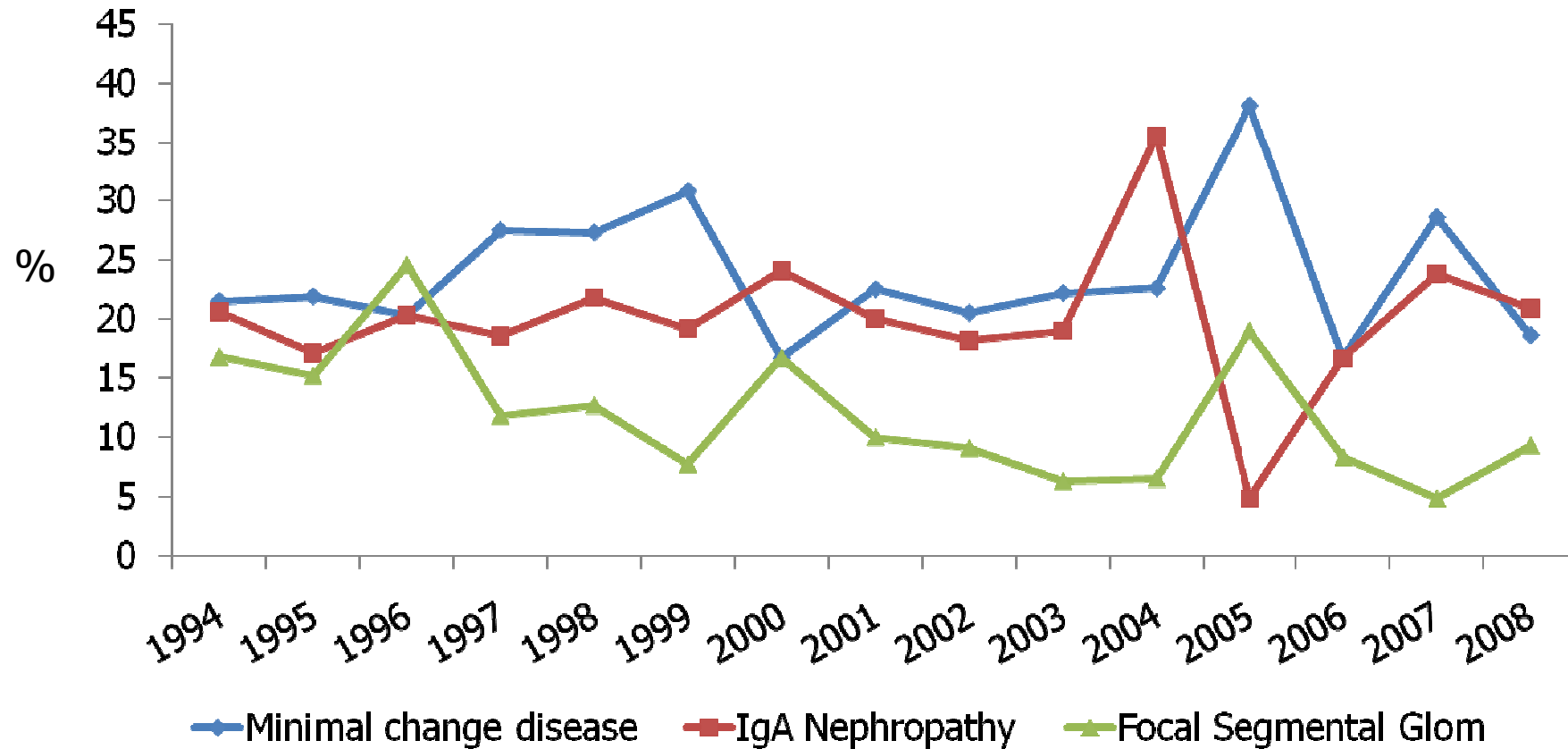
p ns

# PREVALENCE OF BIOPSIED RENAL DISEASES < 15 YEAR-OLD PATIENTS

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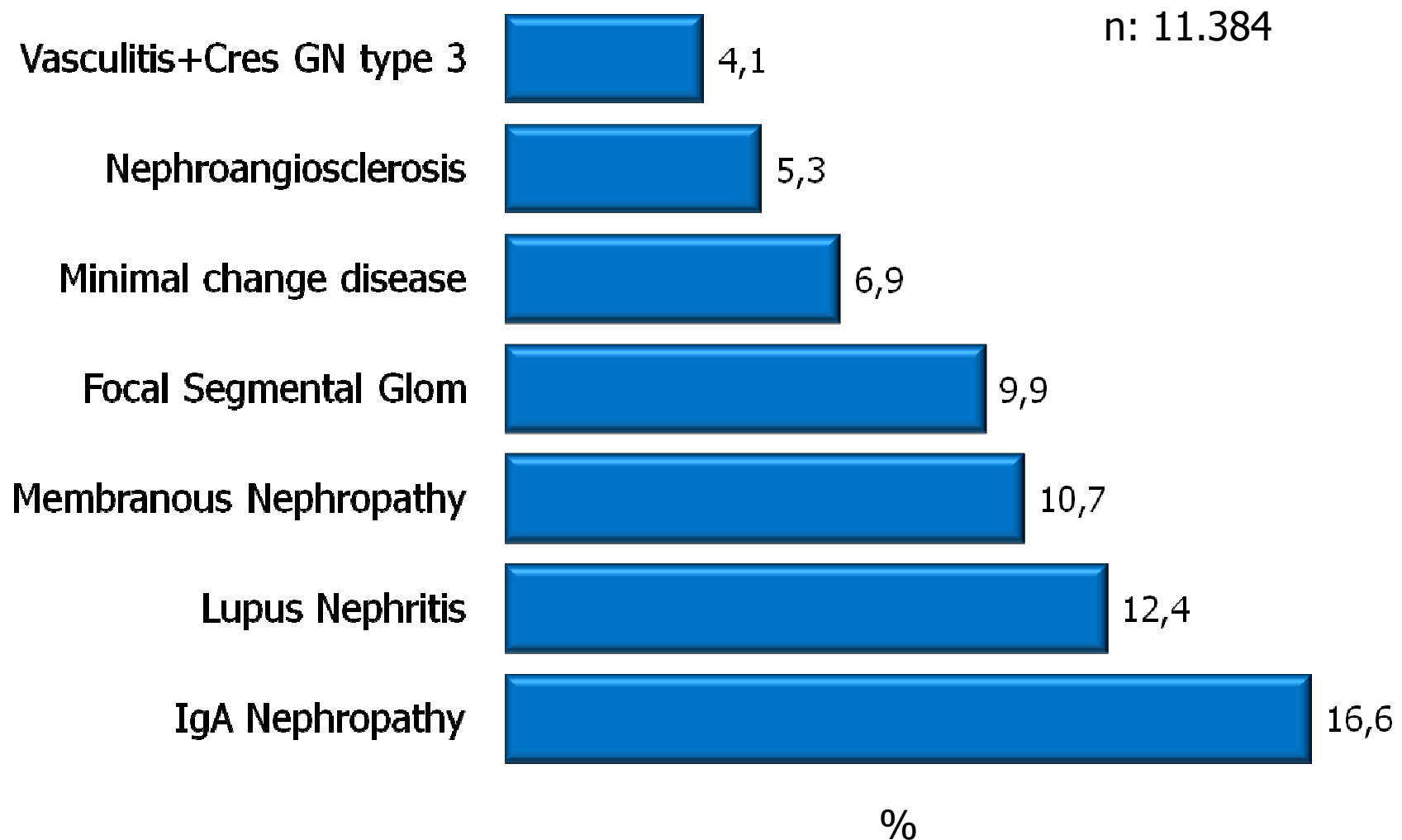
## Evolution of percentages in main diseases < 15 year-old patients



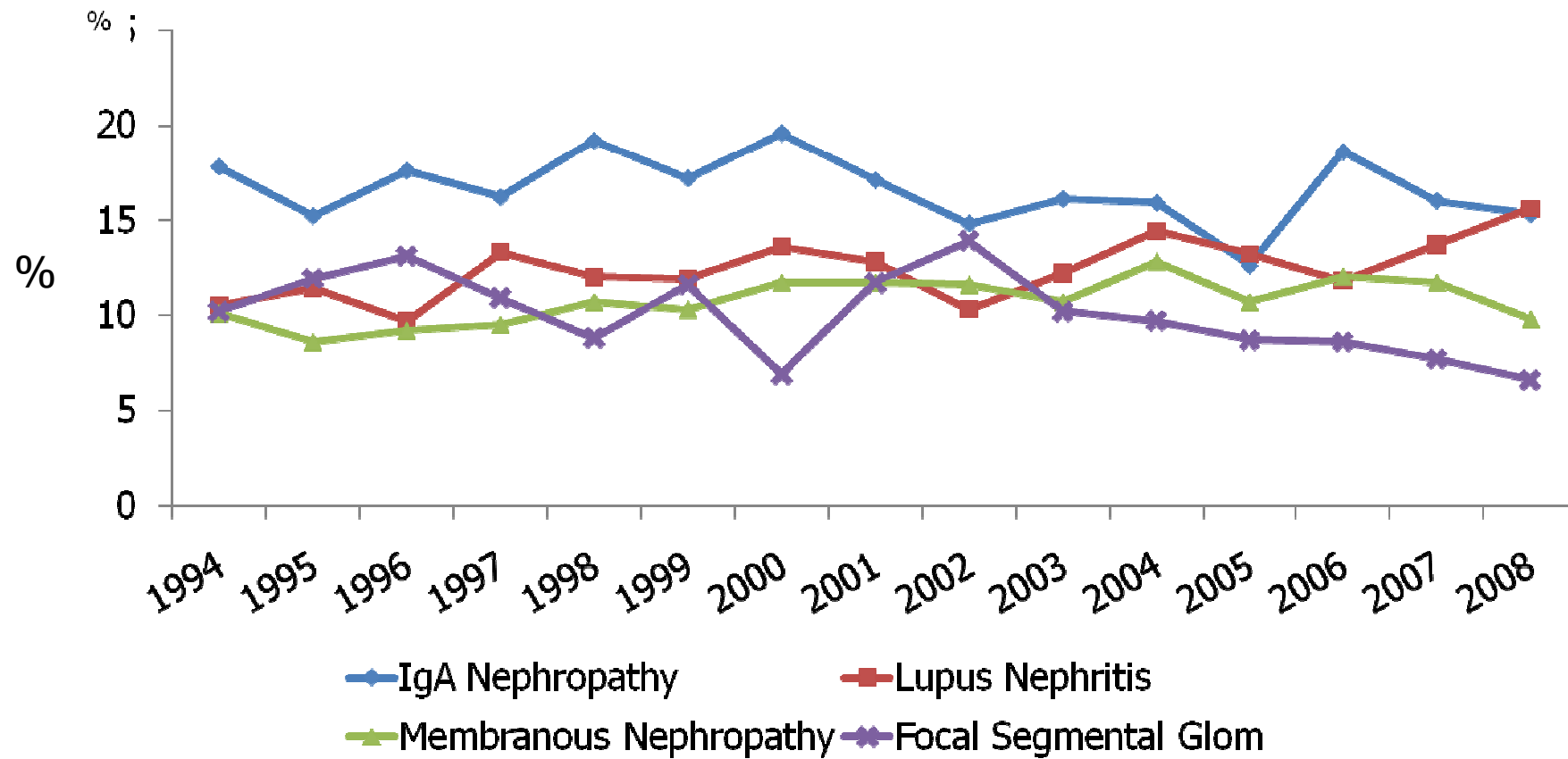
p ns

# PREVALENCE OF BIOPSIED RENAL DISEASES 15-65 YEAR-OLD PATIENTS

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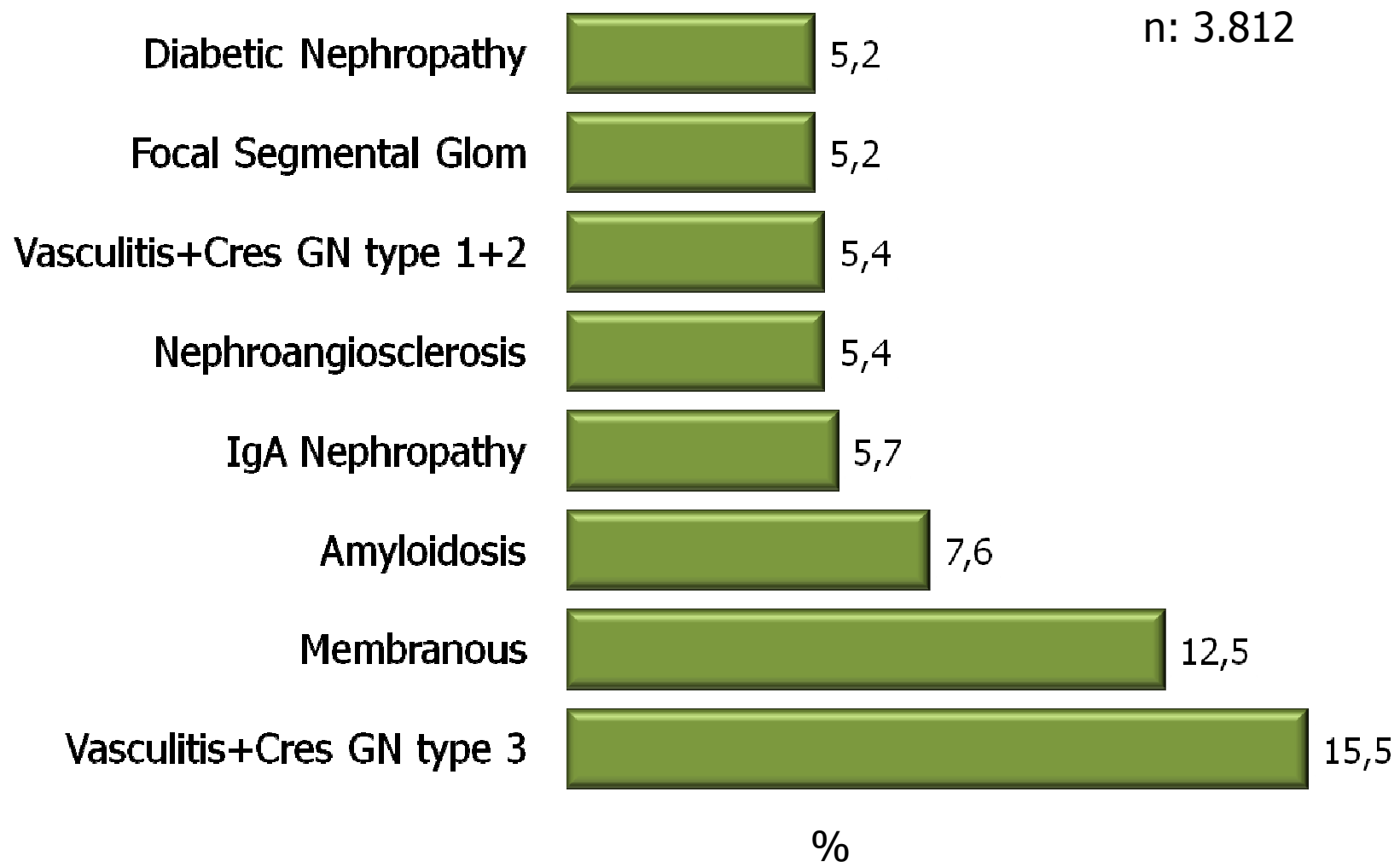
## Evolution of percentages in main diseases 15-65 year-old patients



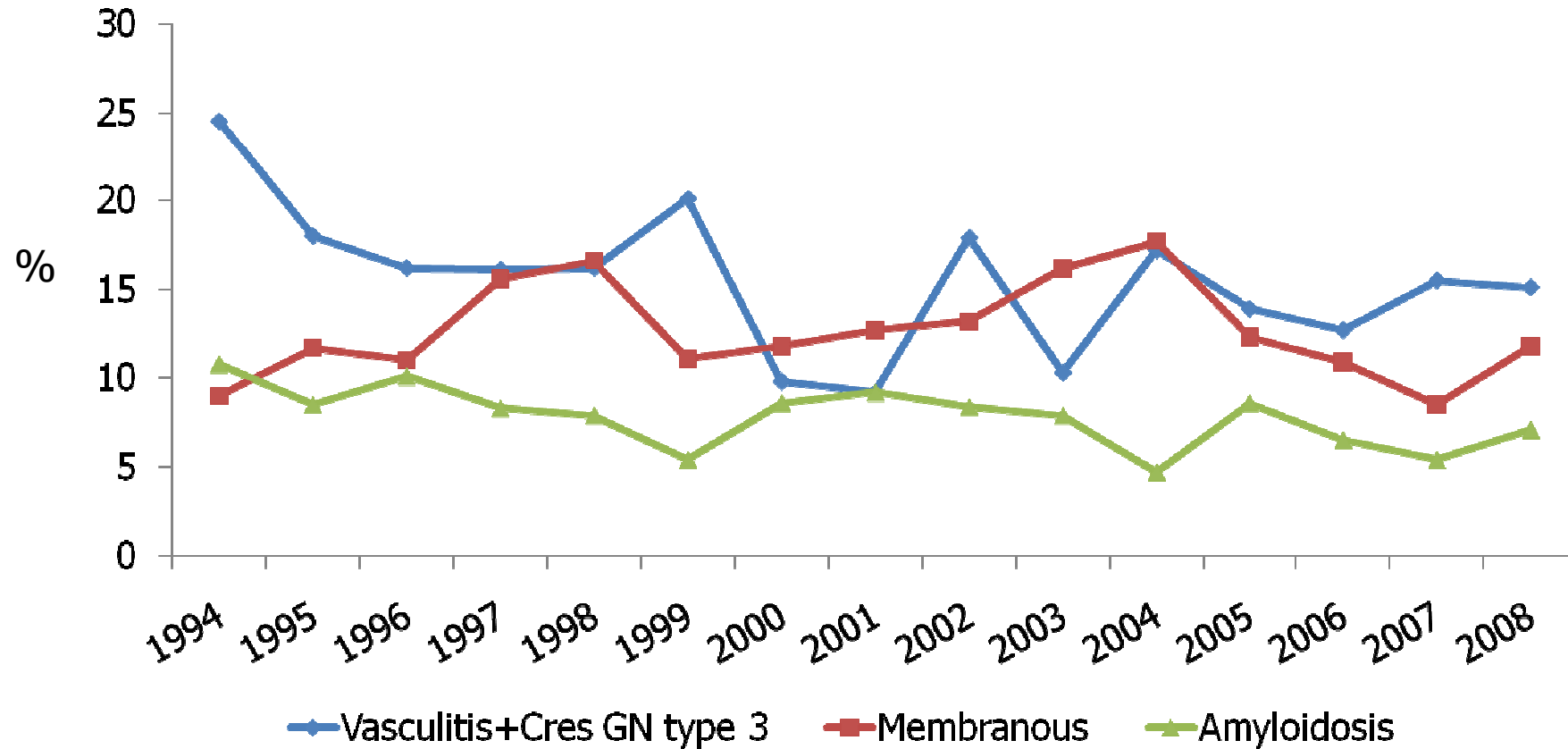
p ns

# PREVALENCE OF BIOPSIED RENAL DISEASES > 65 YEAR-OLD PATIENTS

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## Evolution of percentages in main diseases > 65 year-old patients



p ns

## Conclusions (1)

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- The Spanish Registry of Glomerulonephritis maintains useful information about biopsied renal diseases in our country for more than 15 years
- It is one of the largest and most recognized national based registry all over the world
- It has recorded around 1.000 renal biopsies per year

## Conclusions (2)

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- Males predominate in each group of ages
- There is only a 5% of participation in paediatric population
- The prevalence of hypertension, proteinuria, haematuria and renal failure is high in every group of ages

## Conclusions (3)

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- The main clinical indication of renal biopsy is nephrotic syndrome in paediatric and adult disease, whereas in elderly people predominate acute renal failure
- Only 16% of renal tissue is completely studied by OM+IF+EM
- Although IgA nephropathy is the most frequent finding, the distribution of renal diseases changes according to age

## Conclusions (4)

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- **< 15 years:**
  - It predominates the variants of idiopathic nephrotic syndrome and IgA nephropathy
- **15-65 years:**
  - The main renal diseases are: IgA nephropathy, lupus nephritis, membranous nephropathy and focal segmental glomerulosclerosis
- **> 65 years:**
  - Renal limited vasculitis and crescentic type 3 glomerulonephritis followed by membranous nephropathy are the main renal diseases

It seems not to be any differences in the prevalences of main renal diseases in the last 15 years

# Spanish Registry of Glomerulonephritis

## Main challenges

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- To increase participation, especially in paediatric population
- To accurately determine the incidence of renal diseases expressed as p.m.p.
- To handle the electronic web database and the new way to introducing the data
- To study in more detail clinical and histological findings complemented with follow-up evolution, which are not asked nowadays
- To maintain publications in high-impact journals

*Original Article*

## **Frequency of renal pathology in Spain 1994–1999**

Francisco Rivera<sup>1</sup>, Juan Manuel López-Gómez<sup>2</sup> and Rafael Pérez-García<sup>2</sup> representing the Spanish Registry of Glomerulonephritis

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*Kidney International, Vol. 66 (2004), pp. 898–904*

## **Clinicopathologic correlations of renal pathology in Spain**

**FRANCISCO RIVERA, JUAN MANUEL LÓPEZ-GÓMEZ, RAFAEL PÉREZ-GARCÍA,  
ON BEHALF OF THE SPANISH REGISTRY OF GLOMERULONEPHRITIS<sup>1</sup>**

*Sección de Nefrología, Complejo Hospitalario, Ciudad Real, Spain; and Servicio de Nefrología, Hospital General Universitario Gregorio Marañón, Madrid, Spain*

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*Clin J Am Soc Nephrol 3: 674-681, 2008.*

## **Renal Biopsy Findings in Acute Renal Failure in the Cohort of Patients in the Spanish Registry of Glomerulonephritis**

Juan M. López-Gómez\* and Francisco Rivera,<sup>†</sup> on behalf of Spanish Registry of Glomerulonephritis



# *Papel del Registro de Glomerulonefritis de la Sociedad Española de Nefrología: pasado, presente y futuro*

F. Rivera\*, J. M. López-Gómez\*\* y R. Pérez-García\*\*

**RENAL BIOPSY FINDINGS IN VERY ELDERLY PEOPLE (>80 YEAR-OLD):  
DATA FROM SPANISH REGISTRY GLOMERULONEPHRITIS.**

F Rivera, JM López-Gómez  
On behalf of Spanish Registry of Glomerulonephritis



**ANÁLISIS DE LOS FACTORES DE RIESGO DE  
DISFUNCIÓN RENAL EN LA NEFROPATÍA LUPICA:  
REGISTRO ESPAÑOL MULTICÉNTRICO.**



Registros S.E.N.

S.E.N. Sociedad Española de Nefrología

Web mail | Información para pacientes | Contáctenos | Mapa Web

Bolsa de trabajo

Identificarse | Hazte socio

Inicio > Registros > Registro de Glomerulonefritis

**Registros**

- Datos de los últimos años.
- IRB Inclusión de pacientes en el registro de biopsias.

**Registros**

- Diálisis y Trasplante
- Registro de Glomerulonefritis
- Hemodiálisis Diaria
- Enfermedades Renales Hereditarias
- Registro Gripe A

**Glomerulonefritis**

**REGISTRO DE GLOMERULONEFRITIS**

- Datos del año 2009 (Pamplona, 2009)
- Datos del año 2007 (San Sebastián, 2008)
- Datos del año 2006 (Cádiz, 2007)
- Datos del año 2005 (Madrid, 2006)
- Datos del año 2003 (Tenerife, 2004)
- Datos del año 2002
- Datos del año 1999

<http://www.senefro.org/modules.php>

# Final reflections

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- Although it is important to begin new investigations, it is even more difficult to working on them
- We certainly hope that this Registry will nor dissapear neither decrease its activity in the future



Thanks for your attention