Presence of renal IgG deposits in necrotizing crescentic glomerulonephritis associated to ANCA : a clinical impact ?

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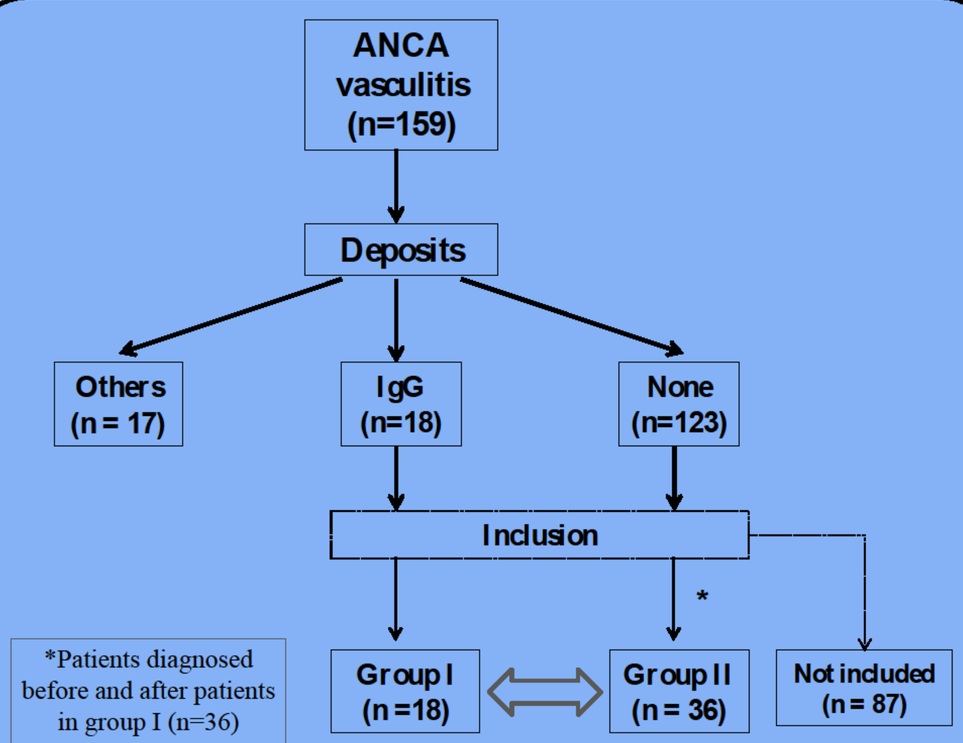
Introduction and Objectives : necrotizing crescentic glomerulonephritis (CGN) associated with antineutrophil-cytoplasmic auto-antibodies (ANCA) are usually characterized by the absence of immunoglobulin (Ig) deposits in the kidney, especially with immunofluorescence staining(IF), and are therefore named paucimmune GCN. However, atypical GCN with such deposits have already been described. The aim of the study was to determine whether renal IgG deposits impact renal and patient outcomes in GCN-ANCA.

Methods : we retrospectively identified all patients with CGN-ANCA and the presence of IgG diagnosed in four French hospitals between November 2008 and August 2013 (Group I). We assessed clinical, biological and pathological characteristics of these patients in comparison with paired controls (CGN without IgG deposits) recruited in the same nephrology units (Group II).

Results: one hundred and fifty nine patients with CGN due to primary ANCA-associated systemic vasculitis were retrospectively analyzed. Among them, 18/159 patients (11%) with glomerular IgG deposits in IF were identified (Group I). Intensity of IgG deposits was equal to 1 in 9 patients (50%), and ≥ 2 in others. C3 deposits were associated in 17/18 patients. In the two groups, patients had more MPO-related ANCA vasculitis (40/54, 74%). Baseline characteristics were similar in both groups except for interstitial fibrosis and tubular atrophy lesions which were more frequently observed in group I than in group II (78 *vs.* 44%, p=0.024). In contrast, acute tubular necrosis (ATN) was less present in group I than in the control group (p=0.046). Patient and renal survivals were not different between groups (p = 0.828 and p=0.793 respectively). IgG deposits did not influence risk of relapse.



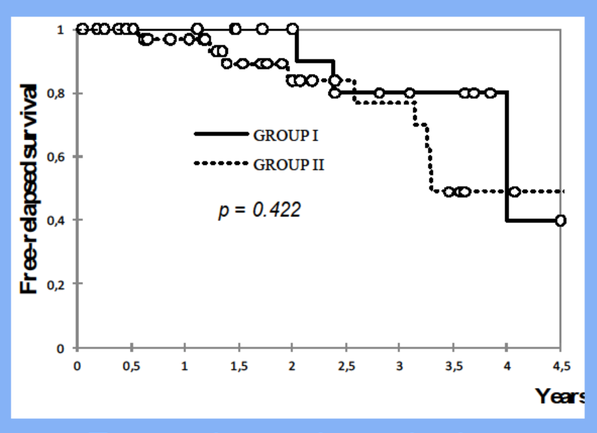
Flow chart

		Cohort (n=54)	Group I (n= 18)	Group II (n=36)	p-value Gp 1 vs Gp 2
Treatment					
Induction treatment	Corticosteroids	51/54 (94)	18/18 (100)	33/36 (92)	0.543
	Cyclophosphamide	43/54 (80)	16/18 (89)	27/36 (75)	0.301
	MMF	6/54 (11)	2/18 (11)	4/36 (11)	1
	Plasma exchange	12/54 (22)	7/18 (39)	5/36 (14)	0.079
	Emergency HD	12/54 (22)	3/18 (17)	9/36 (25)	0.730
Maintenance treatment[a]	Aziathioprin	24/52 (46)	11/17 (65)	13/35 (37)	0.093
	MMF	20/52 (38)	5/17 (29)	15/35 (29)	0.381
Follow-up duration (months)		32 ± 21	32 ± 20	33 ± 22	0.891

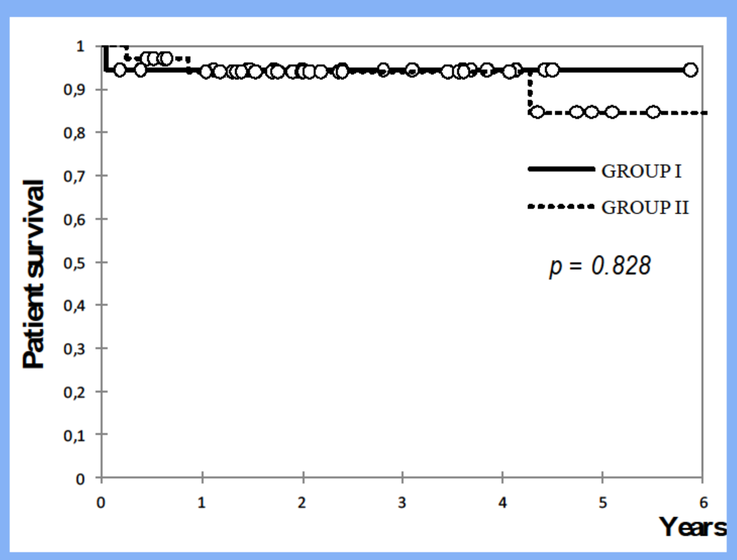
Treatments in the two groups

Relapse		Cohorte	Group I	Group II
No. (%)	0	42/54 (78)	15/18 (84)	27/36 (75)
	1	9 (16)	2 (11)	7 (20)
	2	2 (4)	1 (5)	1 (2.5)
	3	1 (2)	0 (0)	1 (2.5)
Kidney alone		6/12 (50)	3/3 (100)	3/9 (33)
Other		6/12 (50)	0 (0)	6/8 (67)

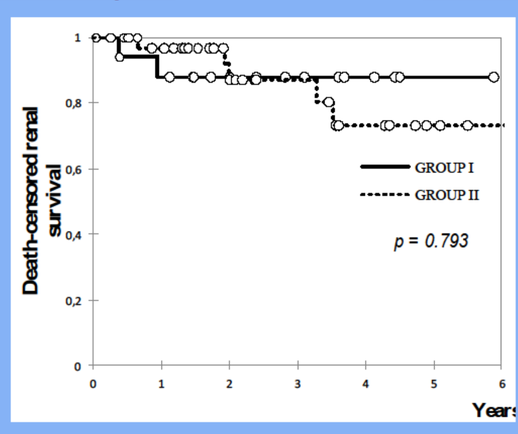
Different kind of relapse



Free-relapsed survival



Patients survival



Death-censored renal survival

Conclusion : Immunoglobulin G deposits were found in 11% of patients with ANCA-associated glomerulonephritis. Presence of IgG deposits did not change clinical, biological and histological pattern. Moreover, it did not affect renal and patient outcomes.

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