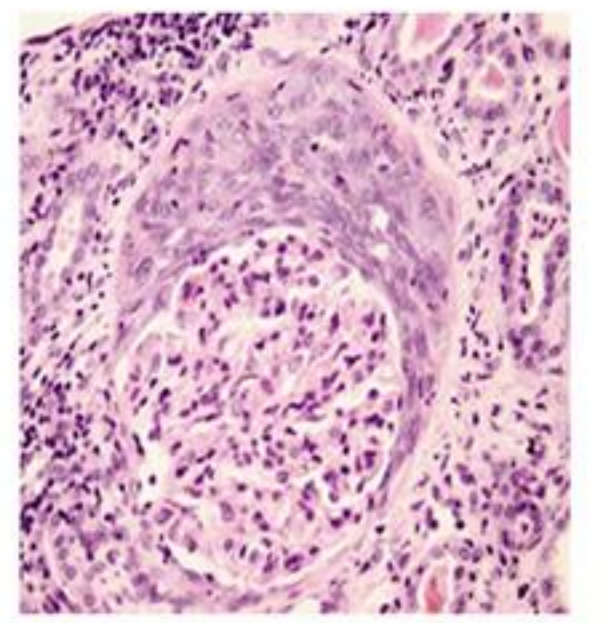


GLOMERULONEPHRITIS WITH CRESCENTS IN ADULTS CLINICO -PATHOLOGICAL CHARACTERISTICS AND DETERMINANTS OF OUTCOME



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INTRODUCTION & OBJECTIVES

Glomerulonephritis with crescents (CrGN) is a serious renal condition, which can progress rapidly leading to irreversible loss of renal function and/or death

We studied the clinical, pathological features and determinants of outcome of CrGN in adults

METHODS

Study Type: Retrospective study

All adults (>18 years) over a 5-year period (2008-2013) with a histopathological diagnosis of glomerulonephritis with any crescents were included.

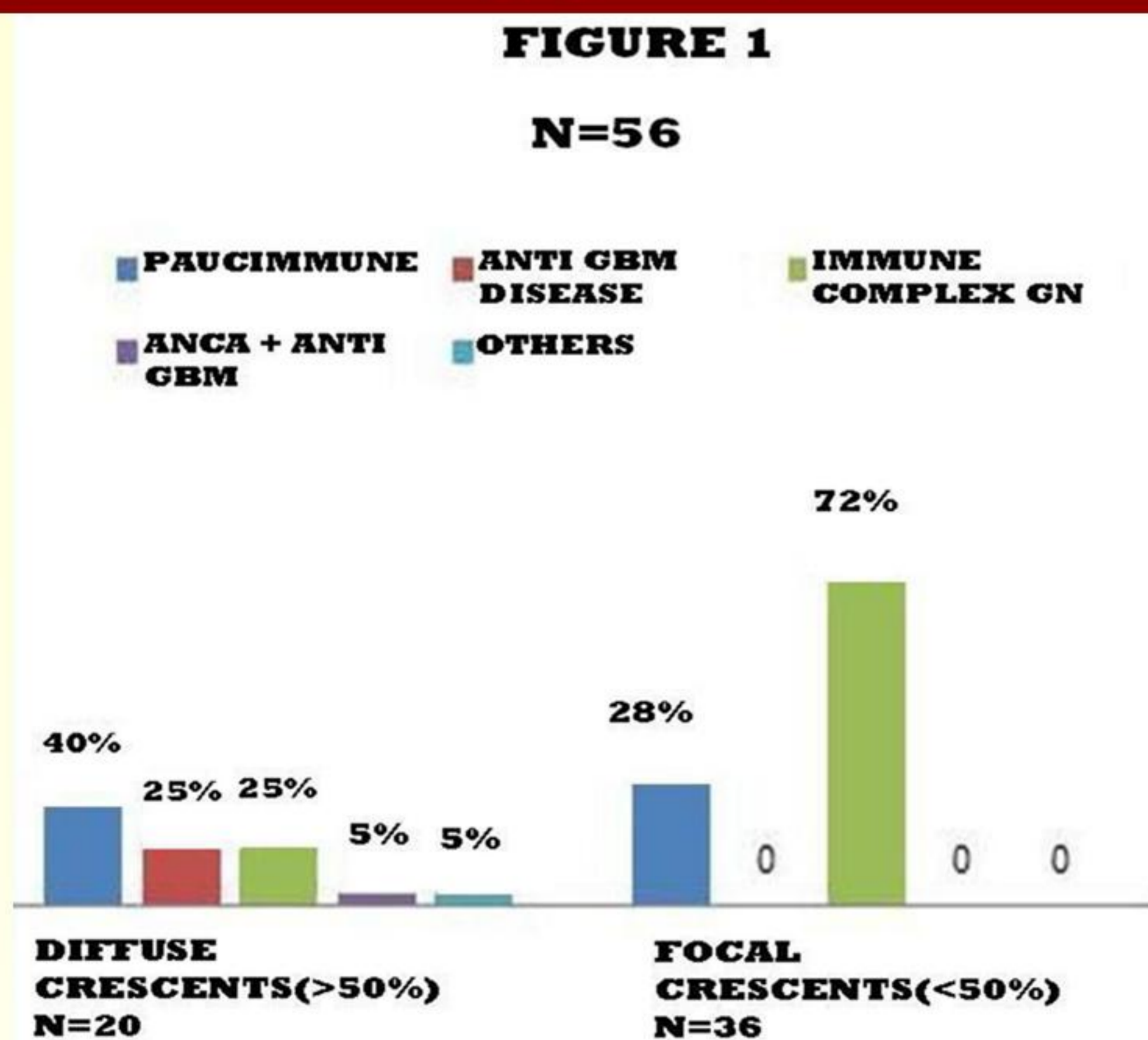
Clinical, biochemical, serological and histopathological data were collected.

Patients were classified into diffuse group (>50% crescents) and focal group (<50% crescents).

Follow-up data including renal outcome and mortality was collected for 6 months.

Data was analyzed using SPSS version 15

RESULTS



Immune complex GN was the commonest cause of GN with focal crescents (72%). Pauci-immune GN accounted for most of the diffuse CrGN(40%).

Compared to focal CrGN, patients with diffuse CrGN had - (table.1)

Higher serum creatinine at presentation (p=0.001), Hemodialysis (HD) requirement at admission (p<0.001), Presence of tuft necrosis (p=0.02), bowman's capsular rupture (p=0.001) and obsolescent glomeruli (p=0.03) in kidney biopsy

At the end of six months follow-up, diffuse CrGN patients had poorer renal outcome and higher mortality (p=0.05) (Table 2).

On multivariate logistic regression, requirement of HD at admission predicted mortality and poor renal outcome irrespective of the focal or diffuse distribution of the crescents

Table 1: Demographic, clinical and histopathological characteristics

characteristics	All (n=56) (%)	Diffuse CrGN (n=20) (%)	Focal CrGN (n=36) (%)	'p' value
Age (years)#	42.34 ± 17.64	43.45 ± 18.34	41.72 ± 17.47	0.7
Serum creatinine at admission(mg/dl)*	3.6 (IR 1.6 - 8.2)	8.25 (IR 3.5 - 10.4)	2.65 (IR 1.5-6.2)	0.001
Female	24 (42.9)	9 (45)	15 (41.7)	0.51
Oliguria	37 (66.1)	7(35)	12(33.3)	0.56
Edema	44(78.6)	17(85)	27(75)	0.3
Hypertension	51(91.1)	18(90)	33(91.7)	0.59
Nephrotic syndrome	17(30.4)	4(20)	13(36.1)	0.17
Renal failure at admission	51 (91.1)	19 (95)	32 (88.9)	0.4
Requirement of HD at admission	25(44.6)	16(80)	9(25)	<0.001
Macroscopic hematuria	6(10.7)	4(20)	2(5.6)	0.11
Microscopic hematuria	54(96.4)	20(100)	34(94.4)	0.4
No. of Glomeruli#	14.14 ± 6.4	13.9 ± 5.2	14.28 ± 7.1	0.83
Obsolescent Glom %*	15.6 (IR 0- 33.3)	6.9 (IR 0 - 16.4)	24.5 (IR 0 - 39.1)	0.03
Cellular crescents %*	62 (IR 0- 100)	67.1(IR 29 - 98.4)	56.3 (IR 0 - 100)	0.4
Fibrous/Fibro-cellular crescents %*	37.9 (IR 0- 100)	32.8 (IR 1.6 - 71)	43.7 (IR 0 - 100)	0.4
Endocapillary proliferation	15 (26.8)	4 (20)	11 (30.6)	0.3
Tuft Necrosis	10 (17.9)	7 (35)	3 (8.3)	0.02
Bowman's capsule rupture	6 (10.7)	6 (30)	0	0.001
Interstitial Fibrosis and Tubular Atrophy (IFTA) (>25%)	5 (8.9)	3(15)	2 (5.6)	0.24
Acute Tubular Necrosis	10 (17.9)	6 (30)	4(11.1)	0.08
Interstitial infiltrates	43 (76.8)	17(85)	26 (72.2)	0.22

*Data represented in Median (Inter-quartile range) # (mean ± SD)

Table 2: Outcome at 6 month follow-up

Outcome	All CrGN (n=56) (%)	Diffuse CrGN (n=20) (%)	Focal CrGN (n = 36) (%)	'P' value
Complete Recovery	10 (17.9)	1 (5)	9 (25)	0.05
Mortality	12 (21.4)	7 (35)	5 (13.9)	
CKD 5D	14 (25)	7 (35)	7 (19.4)	
Partial recovery	20 (35.7)	5(25)	15(41.7)	

CONCLUSIONS

In our cohort, Immune complex GN and Pauci-immune GN were the commonest causes of focal and diffuse CrGN respectively.

Incidence of end stage renal disease and mortality were significantly higher in patients with diffuse CrGN.

Regardless of the focal or diffuse nature of the crescents, requirement of HD at admission predicted mortality and poor renal outcome.

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