HIV AND KIDNEY

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INTRODUCTION AND AIMS

Renal disease is a common complication in HIV infected patients, about 5 to 10% of these will develop kidney dysfunction during the course of their disease[1].

The first association between HIV infection and kidney disease was made in 1984, when a group of investigators described histologically HIV-associated nephropathy (HIVAN)[2]. In some countries this is the most common histological finding on renal biopsies and the most common cause of chronic kidney disease in HIV + people[3]. No information on the prevalence of HIV associated renal disorders have been reported in Portugal.

The aim of this study was to review the renal biopsies performed in HIV infected patients, received by our pathology department in the last 26 years.

POPULATION AND METHODS

This was a retrospective review of our **56 biopsies** performed in HIV infected patients, since 1982 up to July 2008.

These biopsies were re-examined by two independent investigators. Light microscopy slides examined contained at least 6 glomeruli per section. The degree of interstitial infiltrate, interstitial fibrosis and tubular atrophy was estimated as mild if <30% of the cortical involved, moderate if 30-60% and severe if >60% of the cortical involved.

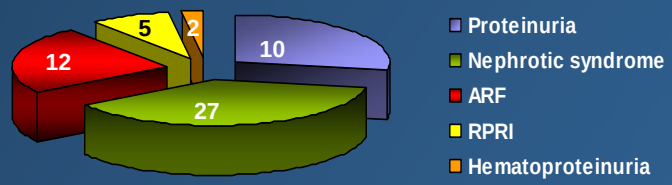
Clinical data recorded: age, gender, race, presence of hepatitis B virus (HBV) or hepatitis C virus (HCV) infection, intravenouse drug use (IVDU), use of HAART, dialysis requirement.

Laboratory data recorded: serum creatinine (Scr) values, ANA, antiDNA, C3, C4, CD4 lymphocyte count, RNA level, 24 hours proteinuria, and presence of hematuria.

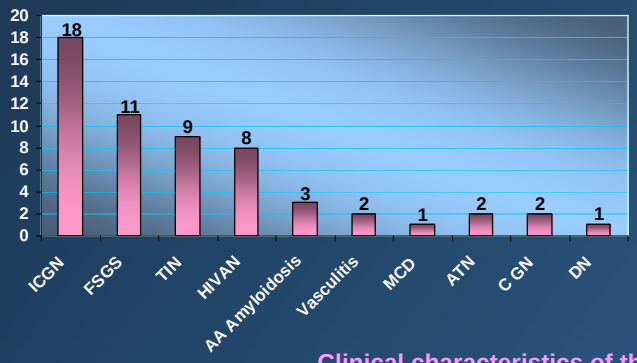
RESULTS

5832 → 56

Indications for renal biopsy:



Histologic lesions identified:



ICGN – Immune-complex glomerulonephrities
FSGS – Focal segmental glomeruloesclerosis
TIN – Tubulointerstitial nephrities
HIVAN – HIV associated nephropathy
MCD – Minimal change disease
ATN – Acute tubular necrosis
C GN – Chronic glomerulonephrities
DN – Diabetic nephropathy
MPGN – Membranoproliferative glomerulonephrities
PGN – Proliferative glomerulonephrities

Clinical characteristics of the patients according to the histologic findings

	HIVAN (n=8)	FSGS (n=11)	MPGN (n=9)	PGN (n=7)	AA Amyloidosis (n=3)	TIN (n=9)	All patients (n=56)
Male gender (%)	87.5 % (7)	72.7% (8)	88.9% (8)	85.7% (6)	33.3% (1)	55.6% (5)	78.6%
Mean age (years)	35.5±8.0	34.1±7.6	37.3±5.4	32.8±9.0	37±7.2	40.9±13.4	37±9.8
Black race (%)	75% (6)**	18.2% (2)	0%	0%	0%	44.4% (4)	25%
HBV infection (%)	0%	9.1% (1)	22.2% (2)	0%	0%	33.3% (3)*	12.7%
HCV infection (%)	25% (2)	45.5% (5)	88.9% (8)**	42.9% (3)	33.3% (1)	44.4% (4)	44.6%
Intravenouse drug use (%)	33.3% (2/6)	55.6% (5/9)	88.9% (8)*	57.1% (4)	50% (1/2)	50% (4/8)	56.3%
AIDS (%)	100%	75% (6/8)	80% (4/5)	14.3% (1)	66.7% (2)	83.3% (5/6)	76.5%
HAART (%)	25% (2)	63.6% (7)	33.3% (2/6)	50% (2/4)	33.3% (1)	83.3% (5/6)	57.9%
Dialysis requirement (%)	62.5% (5)*	0%-*	0%	0%	33.3% (1)	33.3% (3)	25%
CD4 count (cells/mm)	35±9	196±132.3	196.3±91.5	?	50±33.2	152±177.4	493.46±1209.7
RNA level (copies/ml)	530902±25008	222695±427068	278076.7±32671	?	30000±3765	15762.5±16484.1	167786.6±28841
Scr (mg/dl)	5.4±2.4**	1.6±1.0-*	1.9±1.1	1.5±1.3-*	3.7±2.4	4.6±3.3	3.4±2.7
Proteinuria (g/24hours)	5.5±6.1	6.4±4.8*	4.4±3.5	4.4±2.1	9.3±4.1*	1.1±1.0-*	4.8±5.4
Hematuria (%)	42.9% (3/7)	33.3% (3/9)	66.7% (6)	100%*	0%	62.5% (5/8)	51.8%

*p<0.05; **p<0.005; -* or -** inverse correlation

CONCLUSIONS

In our population, a variety of histological lesions were identified and no definitive clinical correlations were found. Consequently, it is not possible to identify or predict the HIV related nephropathy based on clinical criteria.

Renal biopsy is the gold standard for establishing the diagnosis.

References:
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2- Pardo V, Aldana M, Colton RM, Fischl MA, Jaffe D, Moskowitz L, Hensley GT, Bourgoignie JJ. Glomerular lesions in the acquired immunodeficiency syndrome. Ann Intern Med. 1984; 101(4): 429-434
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