

**Abstract Submission No.: A-0161****Cardiovascular Risk Evaluation in Lupus Nephritis and ANCA-associated Vasculitis**

**Tung Lin Lee**<sup>1</sup>, Junjie Lee<sup>2</sup>, Felicia Loo<sup>1</sup>, Lydia Lim<sup>1</sup>, Hui Zhuan Tan<sup>1</sup>, Irene YJ Mok<sup>1</sup>, Jason CJ Choo<sup>1</sup>, Cynthia CW Lim<sup>1</sup>

<sup>1</sup>Department of Internal Medicine-Nephrology, Singapore General Hospital, Singapore

<sup>2</sup>Department of Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore

**Objectives :** Individuals with lupus nephritis (LN) and renal ANCA-associated vasculitis (AAV) have amplified cardiovascular risks. Early recognition and intervention for metabolic disease may mitigate cardiovascular risk. We aimed to evaluate the prevalence of cardiovascular metabolic risk evaluation among adults with kidney disease due to LN and AAV treated with immunosuppressants.

**Methods :** Retrospective cohort study of 219 patients with kidney LN (n= 175) and AAV (n = 44) diagnosed between November 2015 and December 2022. The outcomes were the prevalence of cardiovascular metabolic risk evaluation (HbA1c, fasting glucose and lipid) during the first two years of treatment.

**Results :** The median age was 48.6 (33.3, 60.9) years. Table 1 showed that the AAV group had lower eGFR and higher prevalence of diabetes mellitus, hypertension, and hyperlipidemia. Glycemic evaluation was more frequent during the first year than the second year (81.0% versus 61.2%,  $p<0.001$ ) for the cohort, as well as the LN (79.2% versus 61.7%,  $p<0.001$ ) and AAV groups (88.4% versus 58.8%,  $p=0.003$ ). Lipid evaluation was more frequent during the first year than the second year for the cohort (60.5% versus 50.3%,  $p=0.04$ ) and for AAV (81.4% versus 47.1%,  $p=0.004$ ), but not the LN group (55.1% versus 51.0%,  $p=0.52$ ).

**Conclusions :** Cardiovascular metabolic risk evaluation during lupus nephritis (LN) and ANCA-associated vasculitis (AAV) long-term follow-up should be optimized.

Table 1 - Cardiovascular risk assessment among biopsy-proven lupus nephritis and ANCA-associated vasculitis treated with immunosuppressants .png

Table 1. Cardiovascular risk assessment among biopsy-proven lupus nephritis and ANCA-associated vasculitis treated with immunosuppressants

	All patients, N = 219	Lupus nephritis, N = 175	ANCA-associated vasculitis, N = 44	P value <sup>#</sup>
<b>At diagnosis</b>				
Age, years	48.6 (33.3, 60.9)	43.8 (30.2, 55.3)	67.0 (58.7, 72.3)	<0.001
Male, n (%)	47 (21.5)	33 (18.9)	14 (31.8)	0.06
Diabetes, n (%)	17 (7.8)	7 (4.0)	10 (22.7)	<0.001
Hypertension, n (%)	76 (34.7)	54 (30.8)	22 (50.0)	0.02
Hyperlipidemia, n (%)	58 (26.5)	36 (20.6)	22 (50.0)	<0.001
ASCVD, n (%)	14 (6.6)	11 (6.5)	3 (7.3)	0.74
Serum creatinine, $\mu\text{mol/L}$	69 (51, 144)	60 (47, 88)	201 (115, 357)	<0.001
eGFR, $\text{ml/min/1.73 m}^2$	94.9 (41.8, 118.2)	106.1 (77.1, 122.6)	22.6 (12.4, 47.6)	<0.001
Immunosuppressant treatment, n (%)	215 (98.2)	171 (97.7)	44 (100)	1.00
<b>During first year of follow up</b>				
	All patients, N = 211	Lupus nephritis, N = 168	ANCA-associated vasculitis, N = 43	P value
HbA1c or fasting glucose, n (%)	171 (81.0)	133 (79.2)	38 (88.4)	0.17
- HbA1c, n (%)	95 (45.0)	67 (39.9)	28 (65.1)	0.003
- Fasting glucose, n (%)	149 (70.6)	119 (70.8)	30 (69.8)	0.89
Fasting lipid, n (%)	127 (60.5)	92 (55.1)	25 (81.4)	0.002
<b>During second year of follow up</b>				
	All patients, N = 183	Lupus nephritis, N = 149	ANCA-associated vasculitis, N = 34	P value
HbA1c or fasting glucose, n (%)	112 (61.2)	92 (61.7)	20 (58.8)	0.75
- HbA1c, n (%)	59 (32.2)	42 (28.2)	17 (50.0)	0.01
- Fasting glucose, n (%)	91 (49.7)	77 (51.7)	14 (41.2)	0.27
Fasting lipid, n (%)	92 (50.3)	76 (51.0)	16 (47.1)	0.68

ASCVD, atherosclerotic cardiovascular disease; HbA1c, glycated hemoglobin; RAS, renin-angiotensin system; eGFR, estimated glomerular filtration rate calculated using the Chronic Kidney Disease Epidemiology (CKD EPI) equation.

\*Missing data for 64 patients.

Categorical variables were presented as proportions and continuous variables summarized as medians with interquartile ranges [IQR (25th percentile, 75th percentile)].

<sup>#</sup>Categorical variables were compared using chi square or Fisher's exact test, and continuous variables using Mann Whitney U test.