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Cardiometabolic Risk Evaluation among Lupus Nephritis and ANCA-associated Vasculitis patients in the first year of treatment

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Objectives : Cardiometabolic risk assessment in lupus and vasculitis is increasingly recognized to be important, as shown by the recent EULAR guidelines1. We aimed to evaluate the prevalence of assessment for metabolic risk factors for cardiovascular disease among adults with CKD due to lupus nephritis and ANCA-associated vasculitis (AAV) during the first year of treatment and follow-up.
Methods : Retrospective cohort study of 244 patients aged 18 and older with lupus nephritis (196 patients) and AAV (48 patients) diagnosed by kidney biopsy between November 2015 and December 2022. We evaluated the prevalence of metabolic risk evaluation (HbA1c, fasting glucose and lipid) during the first 12 months of treatment and follow-up.
Results : Age, gender, and comorbid conditions (diabetes, hypertension, hyperlipidemia, ischemic heart disease, kidney function, and immunosuppressant treatment) at diagnosis were not different between the groups diagnosed before and after 2020. Follow-up data at 6 and 12 months after diagnosis were available in 235 and 209 patients, respectively. Glycemic and lipid assessments were performed within the first 12 months in 80% and 58%, respectively; usually within the first 6 months (Table 1). Comparing the groups diagnosed before 2020 and after 2020, the latter had higher prevalence of glycemic assessment within 6 months' (84.6% versus 65.0%, p=0.002) and between 6 to 12 months' follow up (72.7% versus 45.5%, p<0.001). Lipid assessment within the first 12 months were not different between the groups diagnosed before and after 2020 (57.1% versus 60.3% respectively, p=0.64).
Conclusions : Glycemic assessment, but not lipid assessment, has increased in recent years. There is a need to improve cardiometabolic risk assessment in lupus nephritis and AAV.

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	Diagnosis Year			
	All patients	Before 2020	After 2020	P value#
Comorbid conditions at diagnosis				
	N = 244	N = 165	N = 79	
Age, years	48.0 (32.8, 61.3)	48.6 (33.3, 60.7)	47.4 (32.4, 64.9)	0.81
Male (%)	53 (21.7)	35 (21.2)	18 (22.8)	0.78
Diabetes, n (%)	19 (7.8)	11 (6.7)	8 (10.1)	0.35
Hypertension*, n (%)	80 (35.6)	62 (37.8)	18 (29.5)	0.25
Hyperlipidemia*, n (%)	62 (27.6)	43 (26.2)	19 (31.1)	0.46
Ischemic heart disease**, n (%)	10 (4.5)	9 (5.5)	1 (1.7)	0.46
Serum creatinine**, μmol/L	69 (51, 148)	67 (49, 160)	78 (56, 127)	0.37
eGFR**, ml/min/1.73 m^2	94.8 (41.9, 117.3)	98.0 (38.9, 118.8)	91.3 (51.3, 114.9)	0.84
Immunosuppressant treatment***, n (%)	219 (99.5)	160 (99.4)	59 (100)	1.00
Metabolic risk assessment within the first 6 months' follow-up				
	N = 235	N = 157	N = 78	
HbA1c or fasting glucose, n (%)	168 (71.5)	102 (65.0)	66 (84.6)	0.002
- HbA1c, n (%)	89 (37.9)	49 (31.2)	40 (51.3)	0.003
- Fasting glucose, n (%)	146 (62.1)	90 (57.3)	56 (71.8)	0.03
Fasting lipid, n (%)	104 (44.4)	68 (43.6)	36 (46.2)	0.71
Metabolic risk assessment between 6-12 months' follow-up				
	N = 209	N = 143	N = 66	
HbA1c or fasting glucose, n (%)	113 (54.1)	65 (45.5)	48 (72.7)	<0.001
- HbA1c, n (%)	55 (26.3)	24 (16.8)	31 (47.0)	<0.001
- Fasting glucose, n (%)	89 (42.8)	56 (39.4)	33 (50.0)	0.15
Fasting lipid, n (%)	69 (33.0)	46 (32.2)	23 (34.8)	0.70
Metabolic risk assessment within the first 12 months' follow-up				
	N = 235	N = 157	N = 78	
HbA1c or fasting glucose, n (%)	188 (80.0)	118 (75.2)	70 (89.7)	0.008
- HbA1c, n (%)	107 (45.5)	58 (36.9)	49 (62.8)	<0.001
- Fasting glucose, n (%)	165 (70.2)	104 (66.2)	61 (78.2)	0.06
Fasting lipid, n (%)	136 (58.1)	89 (57.1)	47 (60.3)	0.64

eGFR, estimated glomerular filtration rate calculated using the Chronic Kidney Disease Epidemiology (CKD EPI) estimating equation; HbA1c, glycated hemoglobin
Data was missing for 19 patients (*), 21 patients (**) and 24 patients (***).
Categorical variables were presented as proportions and continuous variables summarized as medians with interquartile ranges [IQR (25th percentile, 75th percentile)].