

## The risk of cardiovascular events in patients with advanced glomerulonephritis is not higher than those with other causes of CKD

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on behalf of the CANPREDDICT steering committee

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**BACKGROUND:** The risk of cardiovascular disease (CVD) in glomerulonephritis (GN) is poorly understood but has been suggested to be high, possibly due to disease-related inflammation promoting atherosclerosis. Therefore, we hypothesize that the risk of CVD in CKD patients with GN should be higher than other CKD patients with similar CV risk factors.

**METHODS:** 2197 patients from CANPREDDICT (N=2544), a prospective cohort study of patients with stages 2-4 CKD with 3 years of follow-up and centrally adjudicated CVD events, were eligible for analysis. GN patients (N=272) were 1:1 direct and propensity score matched to non-GN patients based on age, eGFR, diabetes, prior CVD and sex. Time from cohort entry to CVD events was compared using a shared frailty Cox survival model.

**RESULTS:** Pre and post matching data is shown in table 1. CVD events occurred in 8.7% (N=25) vs 17.8% (N=388) of GN compared to non-GN CKD patients. After matching, CVD events occurred in 9.2% (N=25) of both GN and non-GN CKD patients (HR 1.01 95%CI 0.58-1.78 p=0.96). In sensitivity analyses, GN and non-GN CKD patients had similar CVD risk in subgroups with diabetes (21.4% vs 21.4%, HR 1.03 95%CI 0.46-2.29 p=0.94) or without diabetes (6.1% vs 8.2%, HR 0.75 95%CI 0.36-1.59 p=0.45).

**CONCLUSIONS:** Patients with CKD due to GN do not have a higher risk of CVD compared to otherwise similar CKD patients without GN. These novel findings question the belief that GN contributes directly to CV risk, and emphasize the need to further prospectively study CVD at earlier stages of GN.

Table 1

	Whole cohort		Post matching	
	GN (288)	Non GN (1899)	GN (272)	Non GN (272)
Age (mean; yrs)	58.9	69.7	60.5	60.4
eGFR (mean;	27.7	27.0	27	27.1

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mls/min)				
Caucasian (no.%)	241, 83.7	1703, 89.7	236, 86.8	243, 89.3
Female (no.%)	99, 34.4	715, 37.7	95, 34.9	95, 34.9
Diabetes (no.%)	58, 20.1	1018, 53.6	57, 21.0	61, 22.4
IHD/heart failure (no.%)	82, 28.5	911, 48.0	79, 29.0	72, 26.5