Supplemental Material

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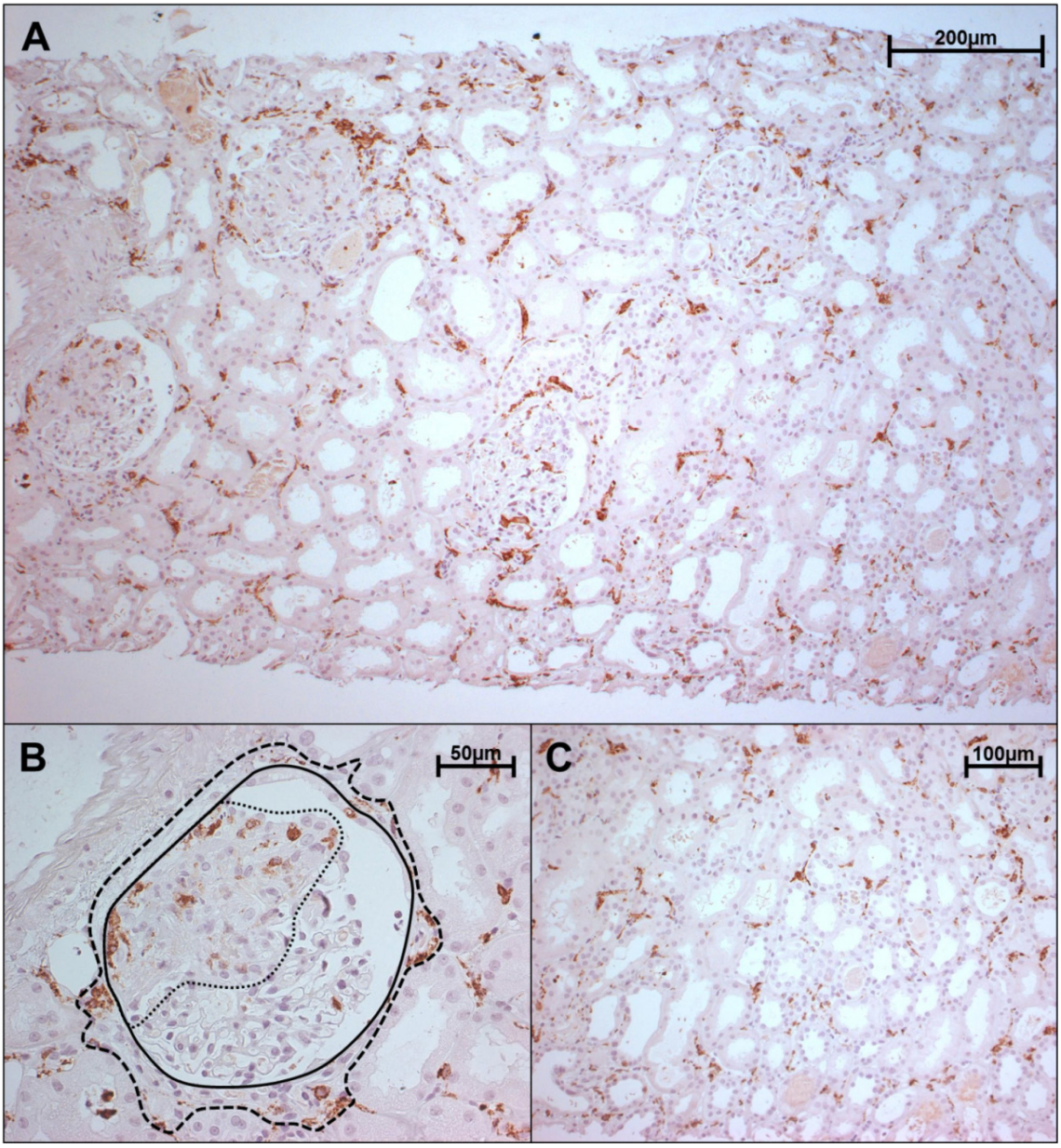
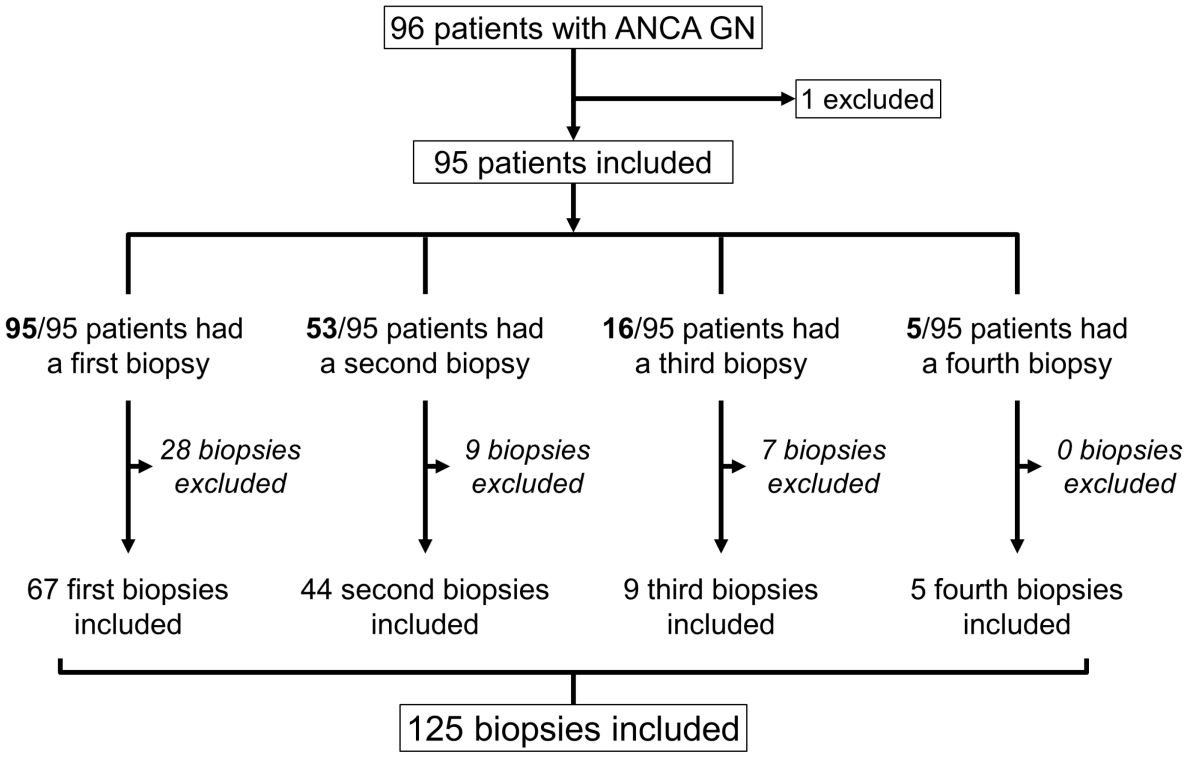
Supplemental figure 1. IHC CD163 stain of (**A**) a representative area of an active ANCA GN biopsy (×100 magnification), (**B**) an affected glomerulus (continuous line) with a crescentic segment (dotted line) with margination of $CD163^{+}$ cells, and the periglomerular area (dashed line) (×400 magnification), and (**C**) the tubulointerstitial area (×200 magnification).



Supplemental figure 2. Flowchart of included patients and available biopsies. One patient had to be excluded due to missing tissue, whereas 95 patients were included with a first and/or repeat biopsy. All patients (95, 100%) underwent a first biopsy, of which 53 (56%), 16 (17%) and 5 (5%) patients underwent a consecutive second, third and fourth biopsy, respectively (**Bold**). Of these biopsies, 28 (29%) first, 9 (17%) second, 7 (44%) third and 0 (0%) fourth biopsies had to be excluded (*Italic*) due to unavailable tissue and/or urine samples. In total, 125 kidney biopsies, of which 67 (54%) first biopsies and 58 (46%) repeat biopsies (i.e., second biopsy *n*=44, third biopsy *n*=9, fourth biopsy *n*=5), were included in our study.

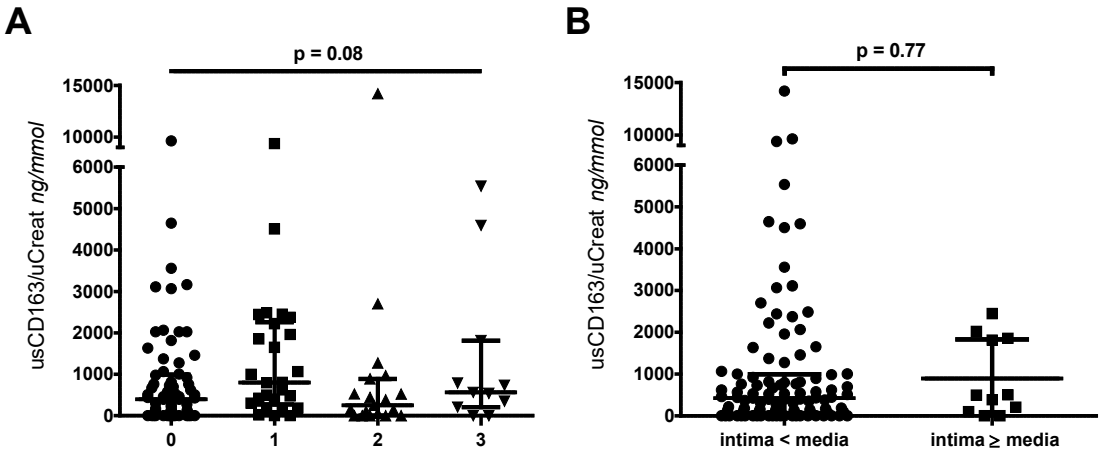


Supplemental figure 3. Flowchart of the patients, biopsies and data used per analysis. All patients were presented in the baseline characteristics table (**Table 1**). All biopsies were used to present parameters at the time of biopsy (**Table 2, Figure 1**), the relation between urinary soluble CD163 levels and disease activity (**Figure 2**), and the correlation of urinary soluble CD163 levels and morphological features of ANCA GN (**Figure 3**). Forty-seven biopsies were available for CD163 staining (**Figure 4**). All repeat biopsies were used to determine the diagnostic performance of the biomarkers to detect active relapsing ANCA GN (**Table 3**). Data are presented in numbers (percentages). AKI, acute kidney injury.

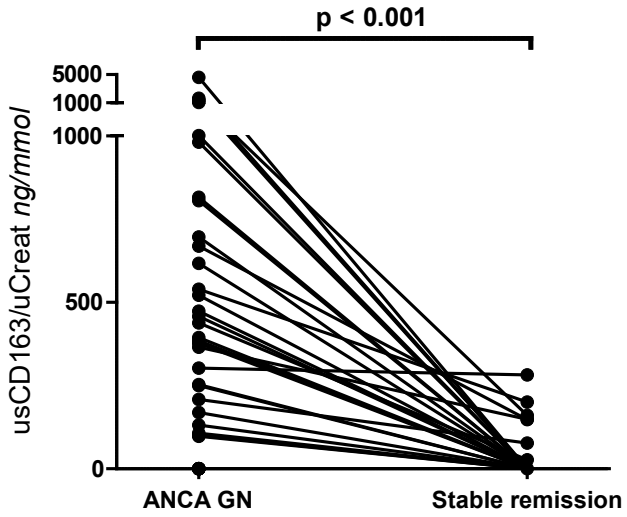
95 patients included

Included in:					
Table 1	95 (100)				
	67 first biopsies	**44 second biopsies**	**9 third biopsies**	**5 fourth biopsies**	*Total*
Figure 1, 2 & 3, Table 2	67 (100)	44 (100)	9 (100)	5 (100)	**125 (100)**
Figure 4	22 (33)	21 (48)	4 (44)	0 (0)	**47 (38)**
Table 3	0 (0)	44 (100)	9 (100)	5 (100)	**58 (46)**
Data available for analysis:					
Acute kidney injury		43	9	5	57
New-onset hematuria		41	9	5	55
Proteinuria		44	9	5	58
C-reactive protein		44	8	5	57
Urinary soluble CD163		44	9	5	58
Serum soluble CD25		43	9	5	57
Urinary soluble CD25		44	9	5	58

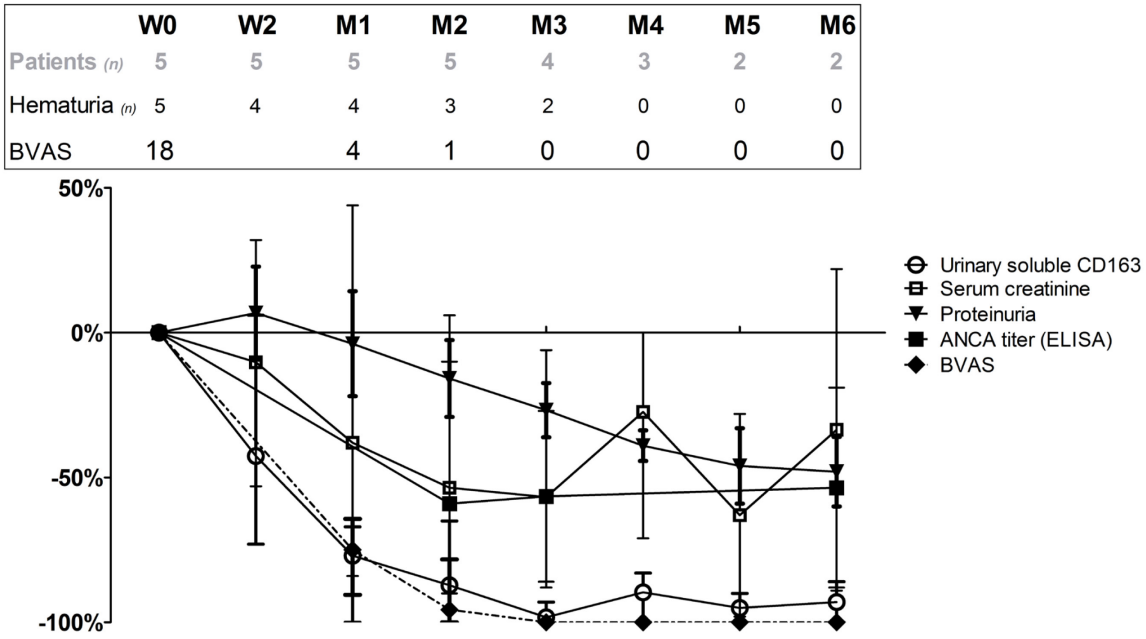
Supplemental figure 4. Urinary soluble CD163 levels did not differ between (**A**) IFTA class or (**B**) extent of arteriolosclerosis. Data are presented as median with interquartile range.



Supplemental figure 5. Levels of urinary soluble CD163 were lower at the time of stable remission. Thirty-eight patients were analyzed and urinary soluble CD163 levels decreased from 381 (99-724) ng/mmol at the time of active ANCA GN to 0 (0-0) ng/mmol at the time of stable clinical remission.



Supplemental figure 6. Dynamics of urinary soluble CD163 and conventional markers during remission induction treatment of 5 patients with ANCA GN for up to six months (median 4 [IQR, 2.5-6] months). Data are presented as mean% decrease compared to baseline (W0). ANCA, anti-neutrophil cytoplasmic antibodies; BVAS, Birmingham vasculitis activity score; M, month; W, week.



Supplemental figure 7. Flowchart of included patients and available biopsies for CD163 staining. From 28 patients, 47 biopsies were available for CD163 staining. First biopsies were available from 22 patients, whereas in 6 patients only repeated biopsies were available. In total, 22 first biopsies and 25 repeated biopsies were included in the analysis.