

## Modified STROBE Statement—checklist of items that should be included in reports of observational studies (Cohort/Cross-sectional and case-control studies)

**Our study is a case series and therefore not all elements apply. I checked the ones that apply and placed N/A for the ones that do not.**

	Item No	Recommendation
<b>Title and abstract</b>	1	(a) Indicate the study's design with a commonly used term in the title or the abstract <b>YES</b>
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found <b>YES</b>
<b>Introduction</b>		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported <b>YES</b>
Objectives	3	State specific objectives, including any prespecified hypotheses <b>YES</b>
<b>Methods</b>		
Study design	4	Present key elements of study design early in the paper <b>YES</b>
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection <b>YES</b>
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <b>YES</b>
		<i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls
		<i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. <b>NA</b> Give diagnostic criteria, if applicable <b>YES</b>
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). <b>NA</b>
Bias	9	Describe any efforts to address potential sources of bias <b>YES</b>
Study size	10	Explain how the study size was arrived at (if applicable) <b>NA</b>

Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why <b>YES</b>
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding <b>YES</b>
		(b) Describe any methods used to examine subgroups and interactions <b>NA</b>
		(c) Explain how missing data were addressed <b>NA</b>
		(d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed  <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed  <i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy  <b>NA</b>
		(e) Describe any sensitivity analyses <b>NA</b>
<b>Results</b>		
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analyzed <b>NA</b>  (c) <b>Use of a flow diagram YES</b>
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders <b>YES</b>
		(b) Indicate number of participants with missing data for each variable of interest <b>NA</b>
		(c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount) <b>NA</b>
Outcome data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time
		<i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure
		<i>Cross-sectional study</i> —Report numbers of outcome events or summary measures

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27

		NA
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included NA
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses NA
<b>Discussion</b>		
Key results	18	Summarise key results with reference to study objectives YES
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias YES
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence YES
Generalisability	21	Discuss the generalisability (external validity) of the study results YES

28  
29  
30  
31

\*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at [www.strobe-statement.org](http://www.strobe-statement.org).

**Supplemental Table S1:** Immune complex glomerular disease: diagnostic patterns. EDD: electron dense deposit; GBM: glomerular basement membrane; GN: glomerulonephritis/glomerulonephropathy; ICG-NOS: immune complex glomerulopathy, not otherwise specified; Ig: immunoglobulin; TBM: tubular basement membrane.

<b>Glomerular disease category</b>	<b>Light Microscopy</b>	<b>Immunofluorescence</b>	<b>Electron Microscopy (if available)</b>
<b>IgA Nephropathy</b>	Mesangial expansion with hypercellularity/proliferation (or normal)	Mesangial IgA dominant, with kappa, lambda, C3, +/- other	Mesangial EDD
<b>Lupus Nephritis</b>	Any combination of proliferative, crescentic, or membranous, with clinical history of lupus	Mesangial and/or capillary wall IgG, C3, C1q, kappa, lambda, +/- IgM, IgA (“full house”)	EDD in any compartment, +/- tubuloreticular inclusions
<b>Membranous nephropathy</b>	Thick capillary walls with irregularities (or normal)	Granular capillary wall IgG, kappa, lambda +/-C3	Small closely spaced subepithelial EDD
<b>Monoclonal GN<sup>1</sup></b>	Any paraprotein glomerular disease pattern	Monotypic kappa, or lambda staining +/- monotypic heavy chain	Granular EDD or fine deposits lining GBM/TBM
<b>Infection associated GN<sup>2</sup></b>	Proliferative with neutrophils (exudative)	Coarse granular C3 +/- IgG (or IgA)	Subepithelial hump-like deposits.
<b>C3 glomerulopathy</b>	Mesangial or membranoproliferative pattern	C3 only or C3 2 orders of magnitude greater than Ig staining	Mesangial +/- subendothelial, +/- subepithelial hump-like deposits
<b>ICG-NOS</b>	Does not fit above patterns. See Table 1		

<sup>1</sup> We identified three cases of recurrent proliferative glomerulonephritis with monoclonal immunoglobulin deposits (one IgG3-kappa, two IgG3-lambda), and one case of light chain deposition disease (kappa).

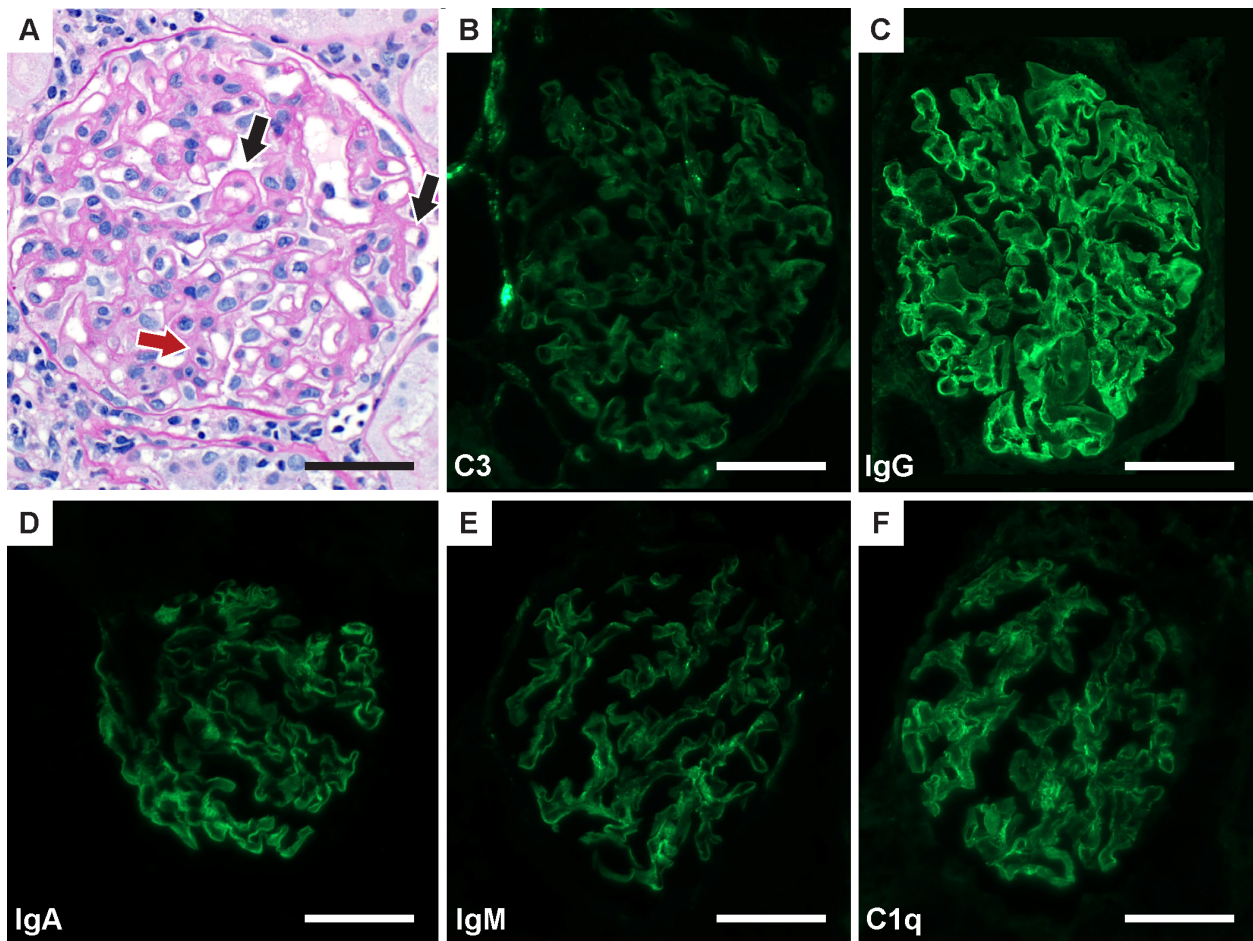
<sup>2</sup>Subepithelial hump-like deposits were present in both cases identified in our cohort; endocarditis was subsequently identified in the C3-only case.



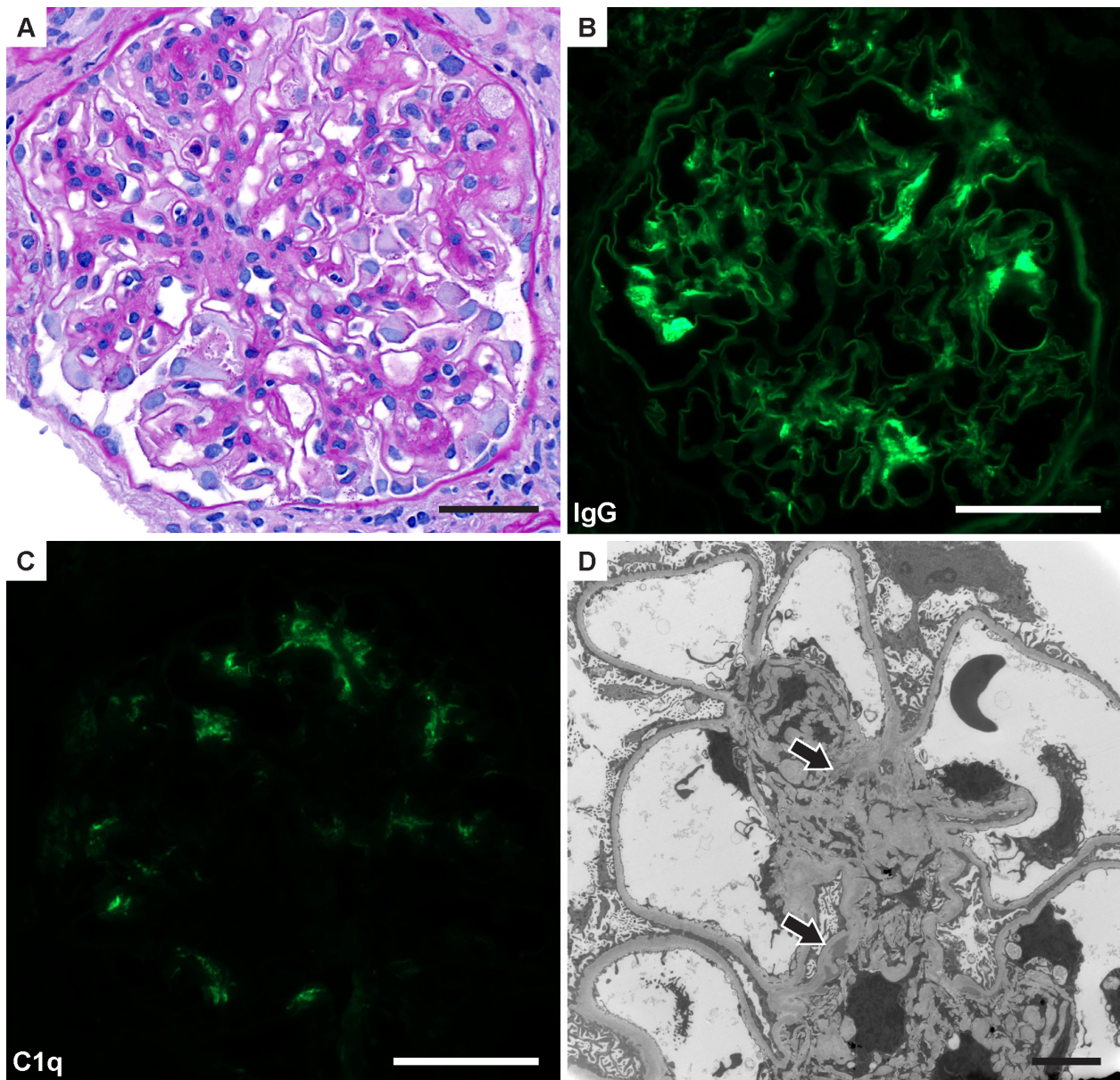
**Supplementary Figure 1.** Patient 3, full house category, additional images (see also Figure 3)

A) PAS stain again showing glomerular basement membrane duplication (black arrows) and endocapillary hypercellularity (red arrows). Tubulitis and peritubular capillaritis are seen at bottom. B) C3 immune staining by IF C) IgG immune staining by IF (identical to Figure 3B), D) IgA immune staining by IF, E) IgM immune staining by IF, F) C1q immune staining by IF.

Scalebars: 50 $\mu$ m.

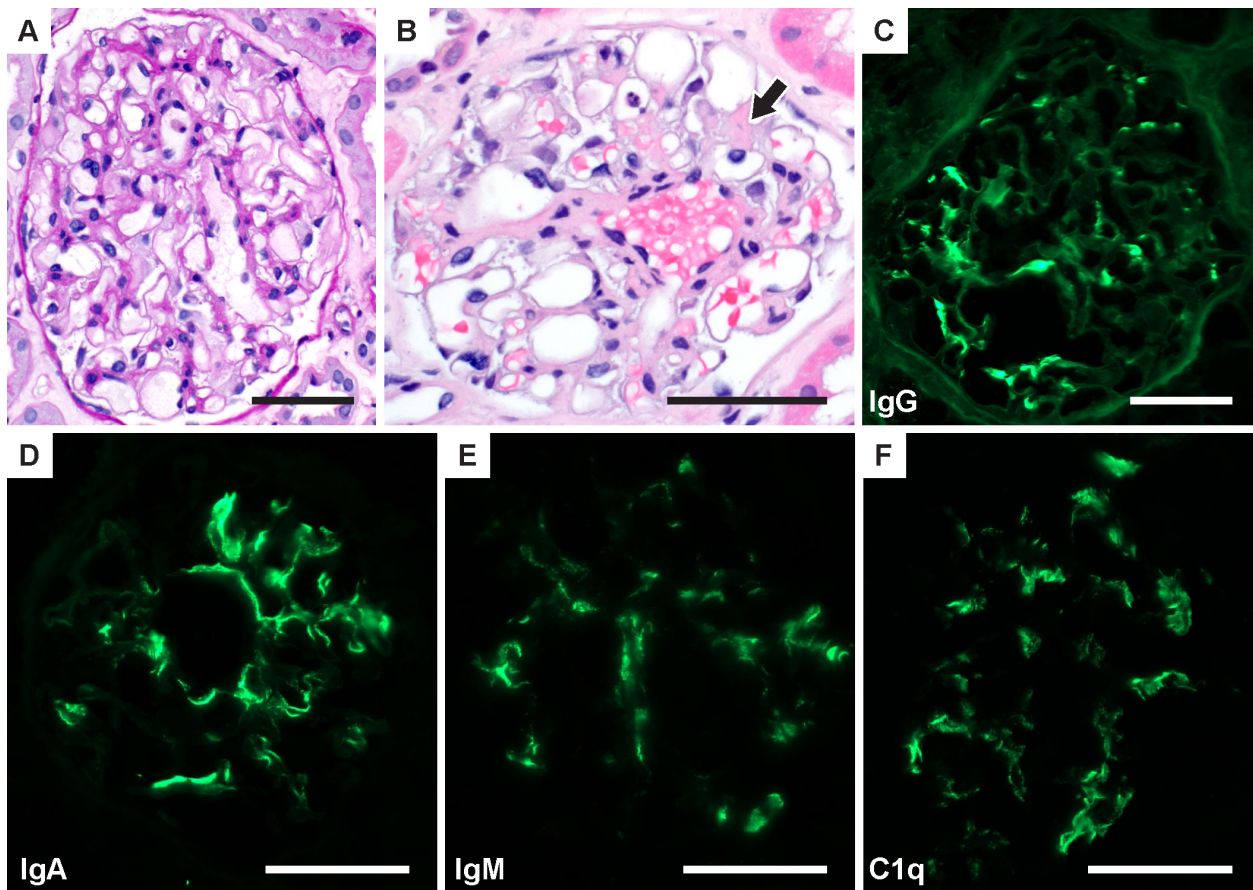


**Supplementary Figure 2.** Patient 8, quasi full house category. A) PAS stain demonstrating mesangial sclerosis with mesangial hypercellularity. Podocytes are prominent, and a lesion of FSGS is seen at upper right (1:00, with foam cell). B) IgG with segmental mesangial staining. C) C1q in the same pattern D) Electron micrograph from the patient's subsequent biopsy showing mesangial sclerosis and scattered mesangial electron dense deposits (arrows). Scalebars: A-C 50 $\mu$ m; D 6 $\mu$ m.

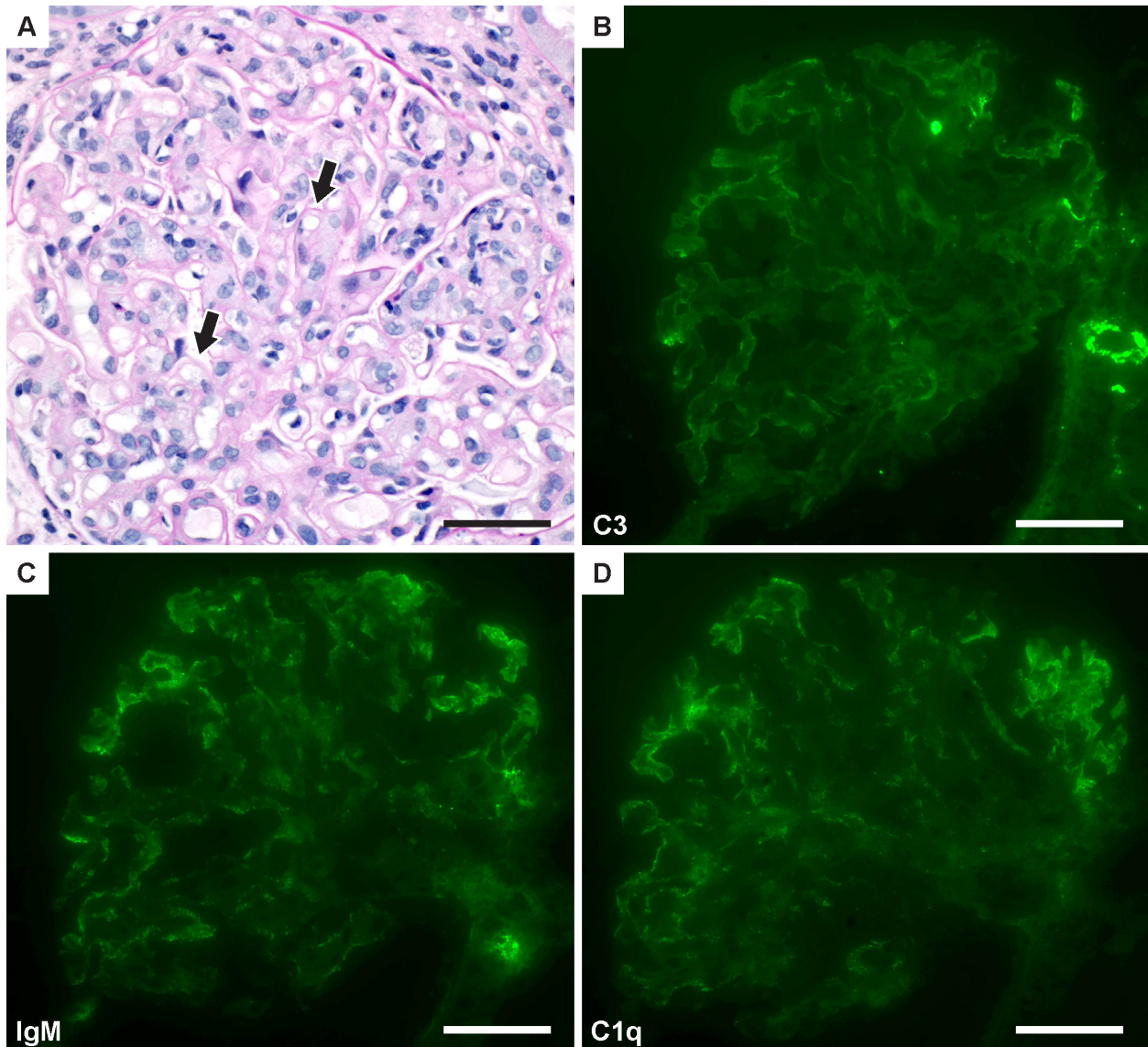




**Supplementary Figure 3.** Patient 15, IgA rich category. A) PAS stain shows slightly prominent glomerular mesangium, without hypercellularity. B) H&E stain demonstrating some brightly eosinophilic material in the mesangium (arrow), corresponding to deposit. C) IgG D) IgA E) IgM F) C1q immunofluorescence, all predominantly mesangial. C3 was negative (not shown). Scalebars: 50 $\mu$ m.



**Supplementary Figure 4.** Patient 19, C1q rich category. A) PAS stain shows global glomerulitis, marked endocapillary hypercellularity and focal glomerular basement membrane double contours were subtle in this glomerulus, and seen elsewhere. There is granular capillary wall labeling for B) C3, C) IgM, D) C1q. IgG and IgA were negative (not shown). Electron microscopy was not performed. Scalebars: 50 $\mu$ m.





**Supplementary Figure 5.** Case 24, C1q poor group. A) PAS stain demonstrates mesangial hypercellularity along with thick, double contoured capillary walls (arrows). B) C3 and C) IgG both show segmental mesangial staining. D) Electron microscopy reveals mesangial (bottom) and subendothelial (left) deposits (arrows-deposits). Scalebars: A-C 50 $\mu$ m; D 2 $\mu$ m.

