Online supplement

Association of preeclampsia with podocyte turnover

Marlies E. Penning (MD)¹, Kitty W.M. Bloemenkamp (MD PhD)², Tom van der Zon (BS)¹, Malu Zandbergen (BS)¹, Joke M. Schutte (MD PhD)³, Jan A. Bruijn (MD PhD)¹, Ingeborg M. Bajema (MD PhD)¹, Hans J. Baelde (PhD)¹

- 1. Department of Pathology, Leiden University Medical Center, Leiden, the Netherlands
- 2. Department of Obstetrics, Leiden University Medical Center, Leiden, the Netherlands
- 3. Department of Obstetrics & Gynecology, Isala Zwolle, Zwolle, the Netherlands

Corresponding author:

Marlies Penning, MD

Address: Leiden University Medical Center

Department of Pathology, L1 Q

PO Box 9600, P0-107

2300 RC Leiden, the Netherlands

Email: m.e.penning@lumc.nl
Telephone: +31-71-5266574

Mobile: +31-645276228

Figure S1: Renal histology in the study groups

Figure S2: Renal histology in preeclampsia

Figure S3: WT-1 and Ki-67 staining

Figure S4: CD44 and Ki-67 staining

Figure S5: CD-44 positive cells on a podocyte location

Figure S6: Cellular bridge

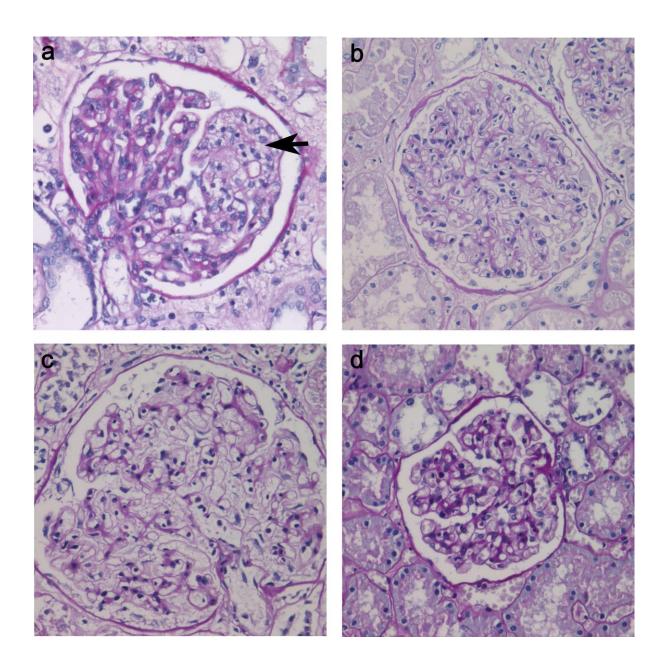


Figure S1 Typical examples of renal histology in preeclampsia and control subjects

PAS stain showing examples of the various glomerular lesions seen in patients and controls. In preeclamptic patients significantly more endotheliosis (arrow) was observed (a), while the majority of pregnant controls showed no glomerular pathology (b). In hypertensive controls a greater surface area of the glomerular tuft and Bowman's capsule was prominent (c), but non-pregnant controls showed generally normal glomeruli (d).

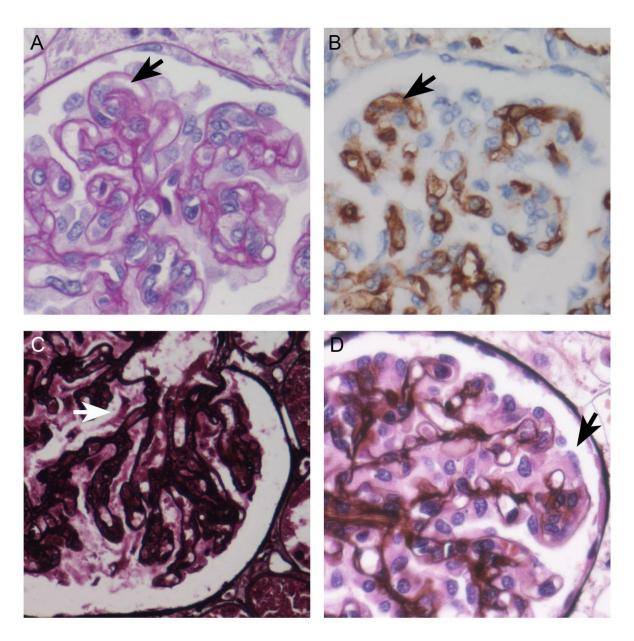


Figure S2: Renal histology in preeclampsia

This figure shows typical examples of histologic lesions in patients with preeclampsia. In preeclamptic patients significantly more endotheliosis (a, arrow). Note that endotheliosis (a, arrow) consists of endothelial cells, as shown by the positivity for the endothelial marker CD31 (b, arrow). In patient with preeclampsia significantly more tram tracking (c, arrow) was observed than in controls, and podocytes (arrow) were prominently present (d).

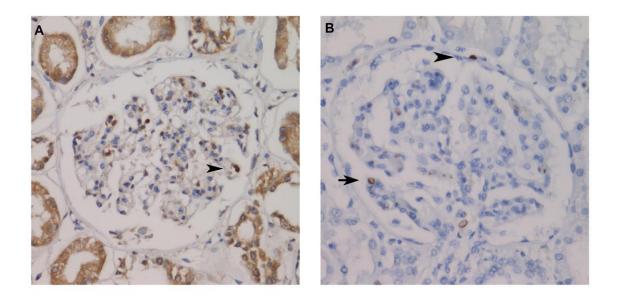


Figure S3: WT-1 and Ki-67 staining

Panel A shows a typical section with intraglomerular WT-1 positive cells (arrowhead) indicating podocytes. Panel B shows a typical section with Ki-67 positivity, a marker of cell proliferation, in the glomerular tuft (arrow), as well as in parietal epithelial cells (arrowhead).

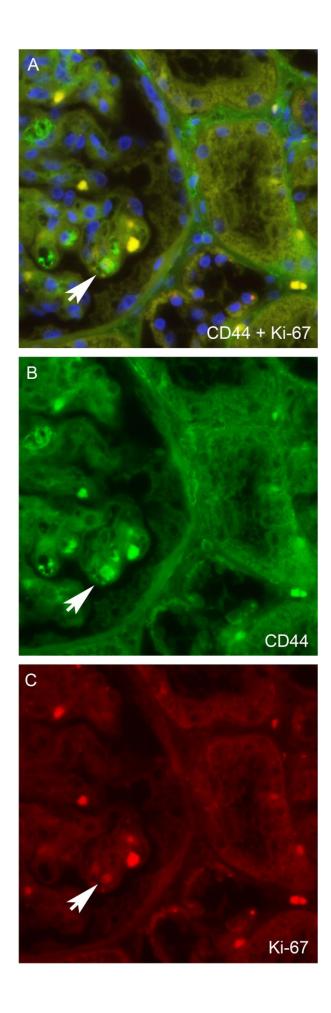


Figure S4: CD44 and Ki-67 staining

Sections were co-stained for CD44 (green) and Ki-67 (red). Panel A shows double staining of a CD44 positive/ Ki-67 positive cell on a podocyte location (arrow). The nuclei were counterstained with DAPI (blue). Note that the CD44-positive cells shown a membrane staining pattern (B) with Ki-67-positive nuclear staining pattern (C).

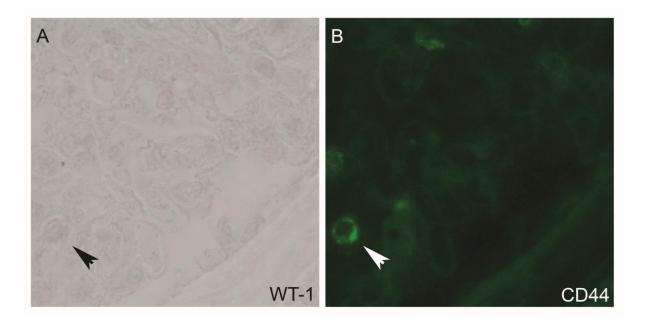


Figure S5: CD-44 positive cells on a podocyte location

Sections were co-stained for WT-1 (dark grey) and CD44 (green). Note the WT-1-positive cells indicating podocytes (A, an example is indicated by an arrow). In Panel B, a CD44-positive cell (arrow), is also WT-1 positive (A, arrow).

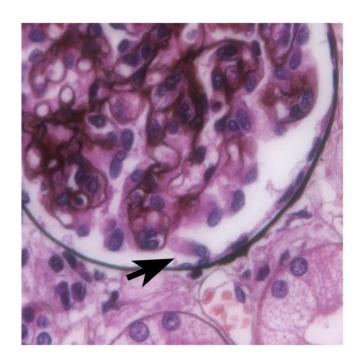


Figure S6: Cellular bridge

This figure shows an example of a cellular bridge (arrow) in a silver stain.