The extracapillary compartment of the glomerulus is the area between the glomerular capillary wall and the Bowman’s capsule. Normally it contains a single layer of podocytes (visceral epithelial cells) and parietal epithelial cells.

A crescent is defined as any pathologically increased number of cells in the extracapillary compartment (also termed as extracapillary hypercellularity), excluding the epithelial hyperplasia associated with the collapsing variant of FSGS.

Crescents consist mainly of epithelial cells (mostly parietal, which, contrary to podocytes, maintain the ability to multiply) and macrophages, as well as lymphocytes, fibroblasts, fibrin and other proteins associated with inflammation and coagulation. According to the relative extent of the cellular or fibrous component, crescents are labelled as cellular, fibrocellular or fibrous. Cellular and fibrocellular crescents are considered active, potentially reversible lesions and thus are usually an indication for treatment. Fibrous crescents are regarded as irreversible scars.

The development of a crescent derives from a rupture of the glomerular capillary wall, associated with fibrinoid necrosis or intense inflammation. Even though their presence is mainly associated with the clinical syndrome of rapidly progressive glomerulonephritis and microscopic findings of fibrinoid glomerular necrosis, they may be present in many types of glomerulonephritis, such as lupus nephritis, IgA nephropathy, poststreptococcal or infection related glomerulonephritis, C3 glomerulonphritis or dense deposit disease, fibrillary or immunotactoid glomerulonephritis.

The current image is from a 43 year old male patient with lupus nephritis class IV-S (A/C)+V (IFN/RPS 2003). Indications for the biopsy were nephrotic syndrome with a proteinuria of 16 g /24 h, microhematuria and an increased serum creatinine of 2.0 mg/dl. Three of the 11 non-obsolete glomeruli contained small cellular crescents. The image depicts the “birth” of a crescent in the form a mitosis of an epithelial cell forming a double layer of parietal epithelial cells, opposite of a capillary loop. The loop demonstrates endocapillary hypercellularity and inflammation with signs of karyorrhexis, and a suggested rupture of a slightly thickened capillary wall. Three years after the biopsy the patient maintains a proteinuria of <1.0 g/24 h and normal serum creatinine on mycophenolate mofetil and low dose steroids.
Δήλωση σύγκρουσης συμφερόντων
Δεν αναφέρεται σύγκρουση συμφερόντων

Conflict of interest statement
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References


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(1) Bowman’s capsule, (2) nuclei of parietal epithelial cells, (3) glomerular capillary wall, (4) endocapillary hypercellularity with signs of karyorrhexis, (5) mitosis of epithelial cell. Eosin-haematoxylin stain X1000, oil immersion.