

Name of journal: World Journal of Nephrology

ESPS Manuscript NO: 13382

Columns: Review

The pathogenesis of glomerular haematuria

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Abstract

Haematuria was known as a benign hallmark of some glomerular diseases, but over the last decade, new evidences pointed its negative implications on kidney disease progression. Cytotoxic effects of oxidative stress induced by hemoglobin, heme, or iron released from red blood cells may account for the tubular injury observed in human biopsy specimens. However, the precise mechanisms responsible for haematuria remain unclear. The presence of red blood cells (RBCs) with irregular contours and shape in the urine indicates RBCs egression from the glomerular capillary into the urinary space. Therefore glomerular haematuria may be a marker of glomerular filtration barrier dysfunction or damage. In this review we describe some key issues regarding epidemiology and pathogenesis of haematuric diseases as well as their renal morphological findings.

Key words: haematuria, pathogenesis, glomerular filtration barrier, dysmorphic red blood cells, chronic kidney disease, microscopic haematuria.

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