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Increased Expression of Clusterin in Kidney of a Fatal Nephropathia Epidemica Case

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Abstract

© 2016, Springer Science+Business Media New York. Nephropathia epidemica (NE), a mild form of hemorrhagic fever with renal syndrome (HFRS), is endemic in the European part of Russia. This disease is characterized by an acute onset followed by symptoms related to kidney impairment. Histologically, NE is defined as a tubulointerstitial nephritis with the prominent leukocyte infiltration and interstitial hemorrhages. Also, the presence of IgM, complement component C3, and fibrin deposits along the basal surface of the tubular epithelial cells has been reported. The pathogenesis of immunoglobulin and complement deposition in the kidney tubules remains unknown. We found clusterin deposits in the kidney tissue from fatal NE. Clusterin was co-localized with hantavirus antigens and C3 complement on the basal side of the kidney tubules. Additionally, kidney infiltrating leukocytes were positive for clusterin. It has previously been documented that the expression of clusterin is restricted to epithelial cells and is often found on tubular cells of the injured kidney tissue. Additionally, clusterin can bind to immunoglobulins and complement components. We propose that upregulation of clusterin expression in the NE kidney is associated with damage to the tissue and may cause deposition of immunoglobulins and complement.

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Keywords

Clusterin, Hemorrhagic fever with renal syndrome, Kidney autopsy sample, Nephropathia epidemica