C3 glomerulopathy

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C3 glomerulopathy (C3G) is a rare disease entity caused by over activity of the alternative pathway of complement that results in glomerular accumulation of complement factors with ensuing inflammation. It is characterized by bright C3 staining on immunofluorescence staining with minimal or no deposition of immunoglobulins. Electron microscopic differences are then used to subdivide C3G into two broad subgroups, C3 glomerulonephritis (C3GN) and dense deposit disease (DDD). The clinical presentation, kidney biopsy findings and alternative pathway abnormalities of C3G will be discussed. The role of immunofluorescence studies following pronase digestion and C4d staining as an aid to the diagnosis of C3 glomerulopathy will be also discussed. Recent findings from laser microdissection and mass spectrometry data will be presented. The update will include a current state of understanding of C3G with regards to pathology and new techniques used in the diagnosis of C3G.