

Clinical Image

## Polyoma Virus Particles in A Kidney Allograft Biopsy

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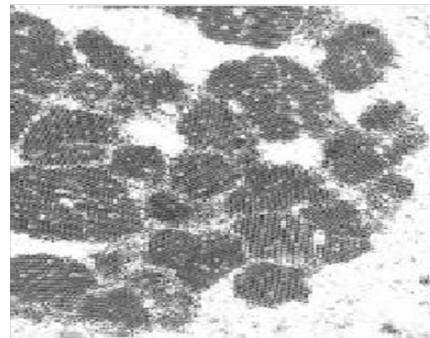
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### 1. Clinical Image

A 45 year old female with kidney failure due to Alport Syndrome (hereditary nephritis) underwent a deceased-donor kidney transplant. Immune suppression consisted of tacrolimus, sirolimus and prednisolone. Initial graft function was excellent (serum creatinine concentration 1.25 mg/dl), but after twelve months began to deteriorate (2.25 mg/dl). Transplant biopsy showed interstitial inflammation and fibrosis, with intra nuclear inclusion bodies in tubular epithelial cells suggestive of BK virus-A-associated nephropathy (BKVAN). The patient's serum was sent for BK virus nucleic acid amplification testing and was strongly positive with a titer of more than 200,000 copies/mL. Electron microscopy at high power (x 53,000, Panel) revealed lattices of the non-enveloped icosahedral viral particles 35 nm in size. Polyoma viruses are one of the few viruses to form lattice structures in tubular cell intra nuclear inclusions. The patient was treated with reduction of immune suppression and cidofovir, an antiviral agent, and her kidney function stabilized.



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