Title: Pulmonary alveolar proteinosis due to mycophenolate and cyclosporine combination therapy in a renal transplant recipient

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Body: Since the first case of Pulmonary Alveolar Proteinosis (PAP) was described in 1858 about 500 cases have been reported. We describe a case of PAP occurring in a renal transplant recipient due to mycophenolate and cyclosporine combination therapy. Five years ago, a diagnosis of acute-on-chronic kidney disease was made in a 36 year old woman who eventually underwent renal transplantation then triple-drug immunosuppression. Subsequently she was in maintenance regimen with mycophenolate and cyclosporine. Several years ago, she had been treated for tuberculosis of the cervical lymph nodes. Chest X-ray showed a bilateral perihilar infiltrate sparing the costophrenic angles (Figure 1). CT-scan showed bilateral diffuse ground-glass haziness with superimposed interlobular septal thickening, predominantly in the perihilar areas (Figure 2).

Transbronchial lung biopsies showed dilated alveoli filled with PAS-positive granular eosinophilic material with deeply eosinophilic structures, resistant to decolorization with diastase, consistent with alveolar proteinosis. The appearance of the symptoms after a few months of the commencement of immunotherapy suggested causality. Immunosuppressive agents are capable of decreasing macrophage numbers and use of these agents in the post renal- transplant patient has been known to produce PAP. This patient was prescribed a combination of mycophenolate and cyclosporine.