

COVID-19-Vaccine-Pfizer-BioNTech

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Antineutrophil cytoplasmic autoantibody and pauci-immune crescentic glomerulonephritis: case report

A 29-year-old woman developed antineutrophil cytoplasmic autoantibody (ANCA) and pauci-immune crescentic glomerulonephritis after vaccination with COVID-19-Vaccine-Pfizer-BioNTech for immunization.

The woman presented for analysis of acute kidney injury. Her medical history was significant for congenital diffuse cystic lung disease. She had progressive lung failure complicated with pulmonary hypertension and waiting for lung transplantation. She had been receiving tadalafil, macitentan and escitalopram. She had dry cough and dyspnea for 6 months. Subsequently, she had received the first dose of COVID-19-Vaccine-Pfizer-BioNTech [Pfizer-BioNTech COVID-19 vaccine; *route and dosage not stated*]. A week prior to the first dose, her serum creatine level was found to be 0.8 mg/dL. Thereafter, she received the second dose. Seven weeks following the second dose, her laboratory tests showed elevated creatine level and positive myeloperoxidase (MPO)-ANCA. She underwent kidney biopsy after 9 weeks of the second dose, which showed 44 glomeruli, of which 8 were globally sclerotic, fibrocellular crescents, fibrous crescents; also, mild diffuse mononuclear interstitial inflammation, foci of moderate tubulitis and scattered red blood cell casts. Electron microscopic analysis showed focal foot process effacement without discrete electron-dense deposits. From all above findings, she was diagnosed with pauci-immune crescentic glomerulonephritis correlating with her positive MPO-ANCA serologies.

Thereafter, the woman started receiving treatment with methylprednisolone along with prednisone, rituximab and cyclophosphamide. During follow up 10 days after the biopsy, her creatine level decreased to 1.01 mg/dL and MPO-ANCA was negative.