Acute retinal necrosis (arn) following rituximab therapy in a neuromyelitis optica (nmo) patient

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Background: Rituximab is the main disease-modifying treatment for Neuromyelitis Optica (NMO). It can be associated with severe complications. Methods: Case report: An NMO patient who developed Acute Retinal Necrosis (ARN) while on rituximab treatment. Results: A 36-year-old male was diagnosed with NMO five years prior to presentation. Treatment with rituximab (1g IV every 6 months) for the past 4 years, resulted in clinical remission. In September 2016 the patient presented with sudden loss of vision in the left eye (20/50) with associated mydriasis. Ophthalmologic examination was consistent with ARN. Cranial and orbital MRI revealed thickening and edema of the left optic nerve extending to adjacent chiasm, without contrast-enhancement. CSF PCR for viruses and toxoplasma were negative. He was also seronegative for HIV. PCR for HSV1 was positive in aqueous humor biopsy. IV acyclovir (750 mg three times daily) was given for 14 days; he was then switched to oral valaciclovir (1500 mg daily) for 3 months. Prednisone (60mg/d) was added. The patient had a remarkable recovery of visual acuity in the affected eye (20/25) at four months after symptom onset. Conclusions: ARN is a rare viral pan-uveitis that can be induced by rituximab treatment. In NMO patients on chronic treatment with this potent immunosuppressive agent, viral ARN should be considered when unilateral visual complaints occur. Clinicians should maintain a high index of suspicion to properly distinguish ARN from other NMO-related causes of visual loss, such as optic neuritis, so that prompt treatment is initiated.