

An off-label use of Rituximab in a patient with severe vasculitic neuropathy

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Introduction:

Vasculitic neuropathies are a heterogeneous group of peripheral nerve disorders characterized by vessel wall inflammation. Standard treatments include steroids, azathioprine, methotrexate and cyclophosphamide. More recently Rituximab and intravenous immunoglobulins have been shown to be effective in some vasculitic neuropathies

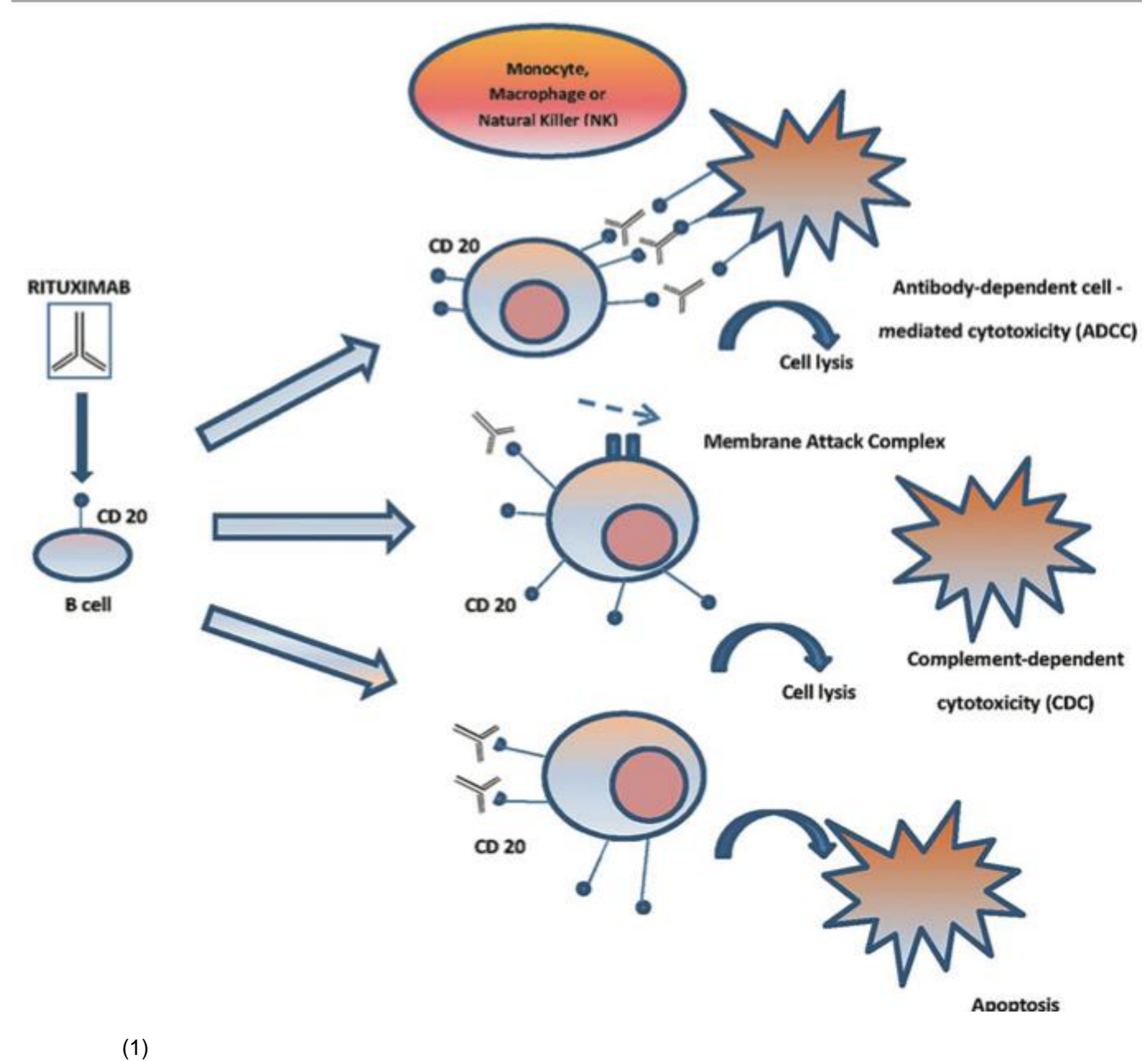
Case Report:

A 55 year old man was hospitalized because of increasing motor impairment accompanied by pain, treated unsuccessfully with high dose of steroids. His medical history was positive for HCV, **Neurological examination** :paretic gait, limbs weakness with glove and sock anesthesia.
An electromyography confirmed the severe axonal sensori-motor neuropathy

· Diagnostic tests

- ✦ HCV-associated cryoglobulins: negative.
- ✦ Periumbilical fat biopsy and echocardiography: negative for amyloidosis.
- ✦ Serum antiMAG antibodies: absent.
- ✦ Bone biopsy shows Waldenstrom's macroglobulinemia
- ✦ Skin histological examination of painful skin ulcers confirmed a vasculitic Screening for POEMS (polyneuropathy, organomegaly, endocrinopathy, M-protein and skin changes): positive. Serum vascular endothelial growth factor (VEGF) was increased,

In March 2016 our patient was recruited for an experimental study and started Rituximab 375 mg/m² intravenously once a week for a month. He completed a cycle of 4 administrations, with benefit. After 4 weeks the skin lesions gradually recovered, but never solved, and the related pain decreased.



(1)

Table - Off-label use of rituximab in autoimmune diseases

Condition	Evidence of benefit (if any)
Systemic lupus erythematosus (non-renal and renal)	Randomised controlled trials failed to show benefit when rituximab was added to standard therapy ^{10,11}
Antiphospholipid syndrome	Case reports and case series including meta-analysis of case series showed benefit ¹²
Blistering diseases of the skin, such as pemphigus and cicatricial pemphigoid	Case reports and case series including meta-analysis of case series showed benefit ^{13,14}
Neurological diseases such as myasthenia gravis and neuromyelitis optica	Case reports and case series showed benefit ^{15,16}
Immune thrombocytopenia	Randomised controlled trial failed to show benefit ¹⁷ despite promising data from case studies

Discussions: Rituximab is a monoclonal antibody used more widely for the treatment of autoimmune diseases, in many cases as an off-label drug. It works by transiently depleting B cells from the circulation. Patients need to be appropriately screened before drug' use, and monitored for adverse effects, particularly infection.(2)

Conclusions:

Rituximab could be considered a second-line treatment in several peripheral neuropathies, particularly if an autoimmune pathogenesis is presumed.

Bibliography:

- (1) Bates JS, Engemann AM , et al. Clinical utility of rituximab in chronic graft-versus-host disease. Ann Pharmacother 2009;
(2)Blaes F, Diagnosis and therapeutic options for peripheral vasculitic neuropathy, Ther Adv Musculoskelet Dis. 2015,