



Cystoid macular edema following rituximab infusion: a mini review of the literature

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Purpose

Rituximab (RTX) is an anti-CD20 monoclonal B-cell depleting antibody. Several side effects have been attributed to RTX, including fever, hives, rashes during infusions, difficulty with breathing, and enhanced susceptibility to infections. Our purpose is to present a rare adverse effect of RTX infusion, consisting of cystoid macular edema development.

Materials and Methods

A thorough search of the literature regarding the terms “rituximab” and “macular edema” was performed.

Results

In the literature, **five cases of cystoid macular edema due to RTX infusion** have been reported.

- Two patients suffered from granulomatosis with polyangiitis
- Two patients suffered from IgG4 related disease
- One patient suffered from antibody mediated rejection in kidney transplant recipient

It is worthy to note that in two cases a second RTX-infusion was accompanied by a recurrence of cystoid macular edema. Although the exact pathophysiology of RTX-induced cystoid macular edema has yet to be elucidated, it has been suggested that local cytokine release and accumulation may be possible linking mechanisms.

Macular edema was **successfully treated** in the previously described cases.

- In one case, **subtenon injection of triamcinolone (40mg)** resulted in BCVA improvement and macular edema resolution
- In one case, **intravenous injections of methylprednisolone (500mg for 3 days)** and **oral intake of corticosteroids and azathioprine** were applied due to scleral thinning. Although macular edema persisted for 10 months, it finally receded and BCVA rose to 10/10.
- In two cases, **intravitreal injections of triamcinolone** were applied with excellent results
- In one case intravitreal **DEX implant (Ozurdex)** was applied resulting in significant visual and anatomical gains

Conclusion

We documented that macular edema may develop after RTX-infusion; the clinicians should be alerted to this uncommon adverse effect, underlying the importance of early recognition and prompt treatment in cases of RTX-induced macular edema.

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