Systemic steroid sparing effect of intravitreal dexamethasone implant in chronic non-infectious uveitic macular edema (ID 56538)

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Background: Uveitic macular edema (UME) is the main condition associated with vision loss in uveitis and usually occurs in up to 65% of intermediate uveitis and panuveitis. The first-line treatment of UME relies on the use of high doses and long-term systemic corticosteroids (CSs). A prolonged treatment with CSs may be burdened by many well-known adverse events. Consequently, to play down CSs-related side effects, disease modifying antirheumatic drugs (DMARDs) should be systemically administered as CSs sparing drugs, while interferon-a or antitumor necrosis factor (TNF)-a biologic agents are recommended in severe and refractory cases. Regarding local approach, CSs eye drops applied to the ocular surface are generally ineffective as only a small percentage of the drug reaches the deep structures of the eye. Conversely, the use of a single 0.7 mg intravitreal slowrelease dexamethasone (DEX) implant has been proposed as a valid adjunct weapon in refractory and chronic cases. The aim of our study was to evaluate the effectiveness and the systemic corticosteroid sparing effect of a single intravitreal dexamethasone (DEX) implant in patients with chronic non-infectious uveitic macular edema (UME).

Patients and Methods: Twenty-two patients (9 males, 13 females) corresponding to 22 eyes underwent DEX implant because of refractory chronic noninfectious unilateral UME. Data were retrospectively collected and analyzed.

unilateral	bilateral
14 (63.6%)	8 (36.4%)

diagnosis	N° (%)
Idiopathic	16 (62.7%)
BD	4 (18.2%)
VKH	2 (9.1%)

Demographic data	Mean ± SD (years)
Age at Ozurdex® implantation	49 ± 20.83
Age at ocular disease onset	45.5 ± 20.3
Duration of ocular disease	3.5 ± 2.5
Eye disease	*N* (%)
Posterior uveitis	13 (59.1)
Anterior uveitis,	1 (4.5)
Intermediate uveitis	2 (9.1)
Retinal vasculitis	11 (50)
Previous treatments	
Corticosteroids	19 (86.4)
Oral	8 (36.4)
Intravenous	12 (54.5)
DMARDs	13 (59.1)
Methotrexate	7 (31.8)
Cyclosporine	6 (27.3)
Azathioprine	4 (18.2)
Mycophenolate	1 (4.5)
Biologic agents	10 (45.5)
Adalimumab	6 (27.3)
Infliximab	3 (13.6)
Certolizumab	2 (9.1)
Golimumab	1 (4.5)
Anakinra	2 (9.1)
Canakinumab	1 (4.5)
Rituximab	2 (9.1)
Concomitant treatments (other than corticosteroids)	
DMARDs	6 (27.3)
Methotrexate	2 (9.1)
Cyclosporine	3 (13.6)
Azathioprine	1 (4.5)
Mycophenolate	1 (4.5)
Biologic agents	7 (31.8)
Adalimumab	3 (13.6)
Infliximab	1 (4.5)
Golimumab	1 (4.5)
Rituximab	2 (9.1)

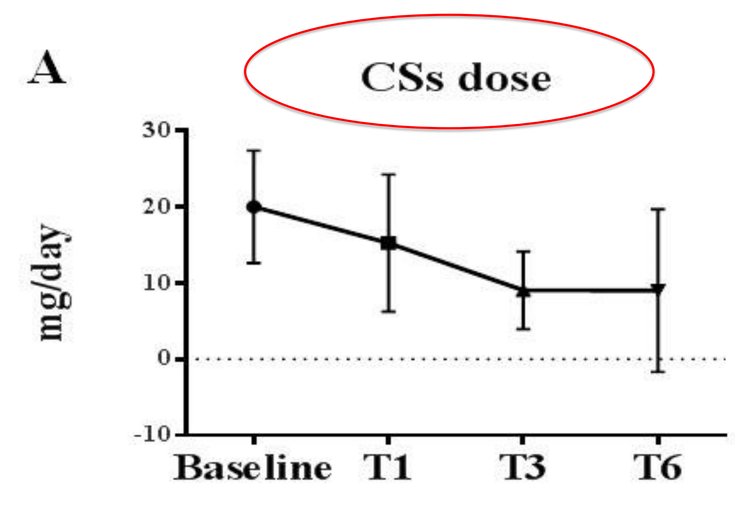
Results: The mean systemic prednisone (or equivalent) dosage significantly decreased at 3- and 6-month follow-up evaluations compared to baseline (P = 0.002 and P = 0.01, respectively). Compared to baseline, central macular thickness (CMT) values significantly decreased at 1-, 3-, and 6-month evaluations after the implantation (P < 0.0001). The mean best corrected visual acuity (BCVA) value gradually improved at 1-, 3-, and 6- month visits compared to baseline (P = 0.009, P = 0.0004, and P = 0.0001, respectively). At fluorescein angiography, active retinal vasculitis was identified in 11 (50%) eyes at baseline, 3 (13.6%) eyes at 1- and 3-month follow-up, and in 2 (9.1%) eyes at the last visit. Regarding side effects, 3/22 (13.6%) eyes presented a newly recognized intraocular hypertension at 1-month follow-up; however, intraocular pressure reverted to normal values within the 6-month follow-up in all cases.

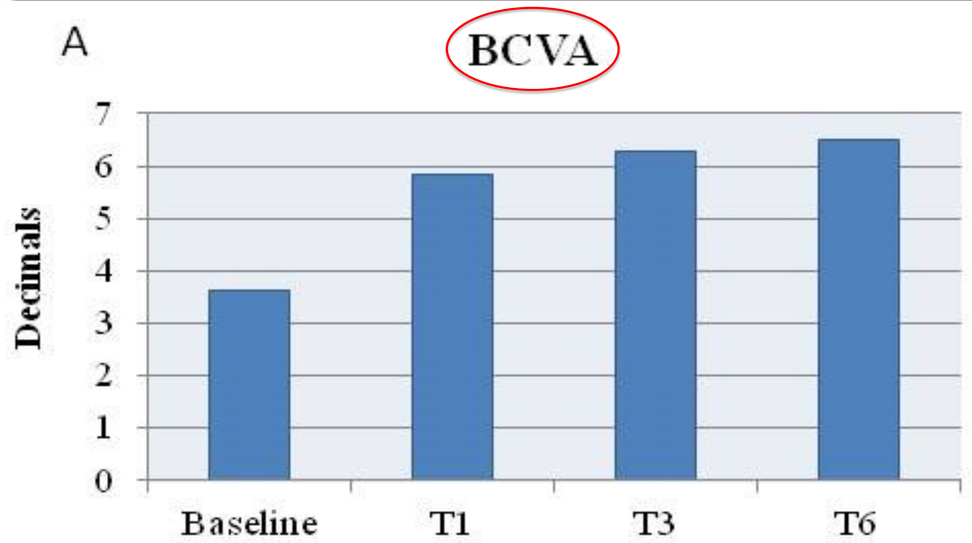
TABLE 2. MEAN VALUES OF CORTICOSTEROID DOSAGE (PREDNISONE OR EQUIVALENT), CENTRAL MACULAR THICKNESS OBTAINED WITH OPTICAL COHERENCE TOMOGRAPHY, AND BEST CORRECTED VISUAL ACUITY AT OZURDEX IMPLANTATION (BASELINE) AND AFTER 1 (T1), 3 (T3), AND 6 (T6) MONTHS; THE NUMBER OF PATIENTS PRESENTING A RETINAL VASCULITIS AT FLUORESCEIN ANGIOGRAPHY WAS ALSO REPORTED

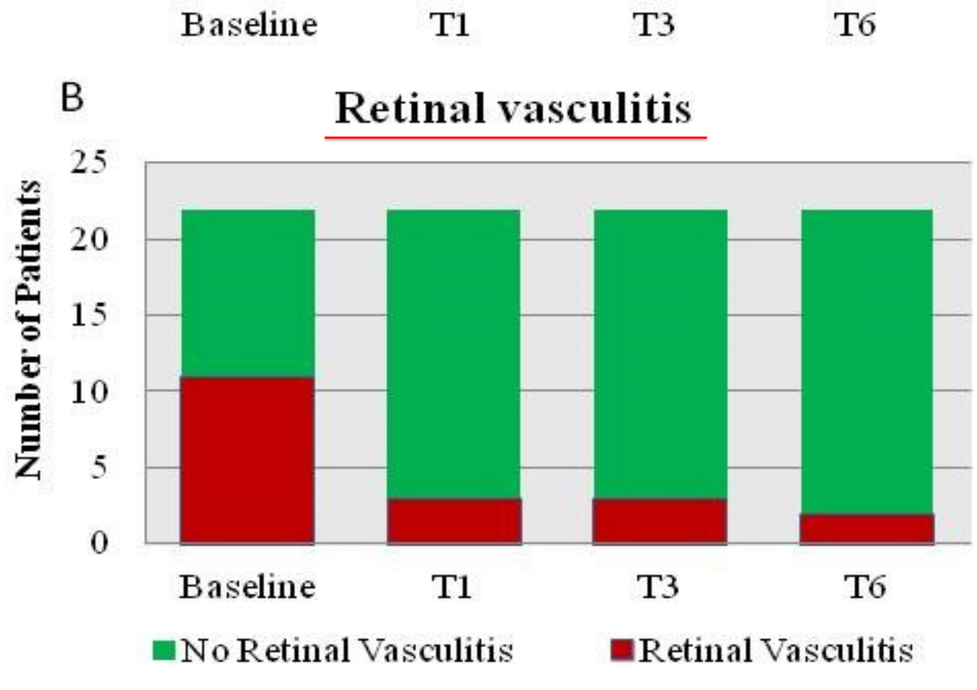
	Baseline	*T1*	*T3*	*T6*	P
Prednisone or equivalent (mg/day)	20.00 ± 7.39	15.25 ± 9.01	9.05 ± 5.10[a]	9.0 ± 10.68[a]	0.01
CMT-OCT (μm)	521.95 ± 155.93	328.05 ± 58.94[a]	291.24 ± 44.82[a,b]	309.73 ± 73.03[a]	<0.0001
BCVA	3.63 ± 1.93	5.83 ± 2.83[a]	6.29 ± 2.42[a]	6.50 ± 2.42[a]	0.0006
Retinal vasculitis at FA	11/22	3/22[a]	3/22[a]	2/22[a]	0.003

The global *P* values read in the past column were obtained with Kruskal–Wallis or χ^2 test. The *post-hoc* pairwise comparisons characterized by statistical significance after Bonferroni corrections were outlined with the following letters: [a]evaluation versus baseline; [b]evaluation versus T1.

BCVA, best corrected visual acuity; CMT-OCT, central macular thickness obtained with optical coherence tomography; FA, fluorescein angiography.







Conclusions: Treatment with intravitreal DEX implant in noninfectious uveitis allowed a significant corticosteroid sparing effect, a significant improvement in BCVA, and a prompt resolution of UME and vasculitis. No safety issues were observed.