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Factors associated with ophtalmological recovery in syphilitic uveitis

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Background: In the context of a resurgence of syphilis, an outbreak of ocular syphilis has recently been suggested, with >200 cases in the USA in the last 2 years. As no prognostic factor has yet been identified, guidelines recommend treating syphilitic uveitis (SU) with 14 days of IV penicillin G. Nevertheless, this treatment regimen is, demanding and may extend the length of hospital stay.

Ceftriaxone (CRO) might be considered as an alternate treatment. The present study aims to identify predictors of treatment success of SU, and to evaluate the efficacy of alternative therapies.

Material/methods: We retrospectively reviewed all patients treated for SU since 2003 in 2 tertiary ophthalmic centers in Paris, France. SU's activity was assessed at baseline, one week (W1) and one month (M1) after treatment onset and at last follow-up (FU). Improvement was defined by a ≥ 2-step decrease of both anterior chamber and vitreous haze inflammation levels, and by chorioretinal lesions' size reduction. Recovery was defined as the resolution of inflammation in all anatomic structures. Factors associated with recovery at M1 were identified in a backward stepwise logistic regression model considering "recovery at M1" as the dependent variable. Since the prevalence of the outcome was frequent, odds ratios were corrected using Zhan and Yu method to avoid overestimation.

Results: 95 eyes (66 patients, mean (SD) age 49 (12.5) years, among which 31 (47%) HIV+ patients and 16 (52%) receiving active antiretroviral therapy) were included. 29 (44%) patients were referred with bilateral ocular involvement. Panuveitis, and posterior uveitis were the most frequent findings. Patient subsets were differentiated based on their HIV status and treatment regimens ("close to standard of care": group A, ≥ 14 days of IV penicillin G (n=27); "pragmatic approach": group B, ≥ 5 days of IV penicillin G followed by Ceftriaxone or BPG (n=14); "non-validated treatment regimens": group C, Ceftriaxone or BPG (n=8); and group D, oral doxycycline (n=1)). Forty-nine patients (71 eyes) had ≥ one-month FU duration. Recovery was reported in 65% and 85% of eyes at M1 and at last FU, respectively. In multivariate analysis, after adjusting for initial visual acuity and the antimicrobial treatment regimen, early improvement at W1 (corrected RR: 3.5 (2.3 – 3.8); p=0.001) was predictive of recovery at M1, while the use of periocular dexamethasone injections (cRR: 0.05 [0.02 – 0.6]; p=0.01) and methylprednisolone pulses (cRR: 0.1 [0.006 – 0.9]; p=0.03) negatively affected eyes' outcomes. There was no difference in M1 recovery between treatment regimen groups.

Conclusions: Early improvement seems to be the strongest predictor of ophtalmological recovery in SU. Ceftriaxone could be considered in selected patients with early favorable clinical course. Periocular dexamethasone injections and methylprednisolone pulses should be avoided in this setting.