



AQUEOUS HUMOR ELEVATED CD4/CD8 RATIO FOR THE DIAGNOSIS OF OCULAR SARCOIDOSIS

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Background:

Although it is usually not difficult to diagnose ocular sarcoidosis with typical clinical findings, a considerable number of cases present with a negative result in the systemic examination, challenging the differential diagnosis.

A recognized immunologic feature in sarcoidosis is an increased CD4/CD8 T-cell ratio in bronchoalveolar lavage (BAL) fluid. Similar results from vitreous infiltrating lymphocytes analysis appear to have diagnostic value. Therefore, aqueous humor CD4/CD8 ratio analysis could provide an easier and inexpensive method for the diagnosis of ocular sarcoidosis.

Patients & Methods:

We performed flow cytometric lymphocyte analysis in 0.1–0.2 mL of aqueous humor from patients with acute anterior uveitis, in order to establish CD4/CD8 ratio.

Six female patients were included, 3 patients with presumed ocular sarcoidosis (POS), 2 with idiopathic anterior uveitis (IAU) and one patient with hypertensive anterior uveitis from a viral etiology, confirmed by PCR for Varicella zoster virus (VZV).

Results:

All 3 patients with POS showed an elevated CD4/CD8 ratio (> 4.96). In 2 of the patients with POS, the CD4/CD8 ratio in the BAL was later performed and although elevated, it was still lower than the one found in the anterior chamber.

In the 2 patients with IAU the ratio was close to 1 and in the patient with viral AU, the CD4/CD8 ratio was inferior to 1, suggesting an inversion of the ratio that might be related to the viral etiology.

No adverse events were identified.

| Age (years) | Diagnosis | CD4 (%) | CD8 (%) | CD4/CD8 |
|-------------|-------------|---------|---------|---------|
| 60 | POS | 100 | 0 | ∞ |
| 58 | POS | 84,2 | 9,6 | 8,77 |
| 62 | POS | 77,8 | 15,7 | 4,96 |
| 51 | IAU | 53,2 | 46,9 | 1,13 |
| 34 | IAU | 0,00 | 0,00 | 0,00 |
| 76 | Viral (VZV) | 32,2 | 48,6 | 0,66 |

Table 1 – Aqueous humor lymphocyte immunophenotyping flow cytometry analysis results. Idiopathic anterior uveitis (IAU); Presumed ocular sarcoidosis (POS) Varicella zoster virus (VZV).

Conclusions:

Aqueous humor tap for flow cytometric analysis is a simple and secure diagnostic procedure to perform that may yield a diagnostic value for patients with POS and, possibly, viral AU.

Further analysis of aqueous humor CD4/CD8 ratio, in viral etiology uveitis, might elucidate if the inverted ratio presents diagnostic significance.

Comments:

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