Successful treatment with adalimumab of sarcoidosis patients with chronic non-infectious uveitis

Erckens RJ[1,2], Mostard RLM[2,3], Wijnen PAHM[2,4], Schouten JS[1], Drent M[2,5]

[1]Dept of Ophthalmology, [2]ild care team, Maastricht University Medical Centre+ (MUMC+), Maastricht, [3]Dept of Respiratory Medicine, Atrium Medical Centre, Heerlen, [4]Dept of Clinical Chemistry, [5]Dept of Respiratory Medicine, MUMC+, Maastricht, The Netherlands

Introduction

Adalimumab, a humanized monoclonal antibody targeted against TNF-α, has proved to be successful in the treatment of uveitis. Another anti-TNF-α agent, i.e. infliximab, has been reported to be beneficial in the treatment of refractory sarcoidosis.

Aim

To evaluate the effect of adalimumab on intraocular inflammatory signs and other relevant clinical manifestations (lung function, serological inflammatory parameters, and fatigue) of sarcoidosis.

Methods

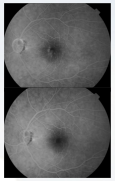
Sarcoidosis patients with refractory posterior uveitis (n=26, 17 females, 41 eyes in total) were systematically followed for 12 months after the initiation of adalimumab 40 mg sc once a week. Inclusion criteria were non-responsiveness or intolerance to prednisone and methotrexate. Localisation and improvement, stabilisation or deterioration of intraocular inflammatory signs were scored. Lung function- and laboratory testst were performed and a Fatigue Assessment Scale (FAS) was completed. Chest X-rays (CXR) and HRCTs were performed when indicated. The CXR stages before treatment were: stage 0 (n=16; 62%), I (n=4; 15%), II (n=4; 15%), and III (n=2; 8%), respectively. Results at baseline, after 6 months, and after 12 months were compared.

Results

Choroidal involvement resolved in 10/15 patients, 5 had partial improvement; vasculitis resolved in 1/1 patient; papillitis resolved in 7/8 patients, 1 had partial response; macular edema resolved in 5/8 patients, 3 had a partial response; vitreous cleared completely in 5/5 patients (Figure 1-3). Overall outcome regarding intraocular inflammatory signs showed improvement in 22 patients (85%) and stabilisation in four patients (15%). At 12 months no recurrences were reported in those successfully treated. Laboratory parameters of inflammatory activity (CRP, ACE and sIL-2R) improved ($p<0.01$,Table 1). Moreover, fatigue improved in 14/21 (67%) of the patients suffering from fatigue and the diffusion capacity for carbon monoxide (DLCO) improved in 7/8 (88%) of patients with a decreased DLCO ($p<0.01$). In 4/8 cases the HRCT was stable and in 4 cases the HRCT improved (see Figure 4).

Figure 1.

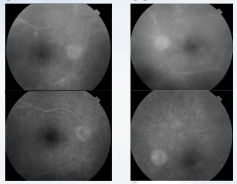
OS



Macula edema before (top) and after (bottom) starting with adalimumab.

Figure 2.

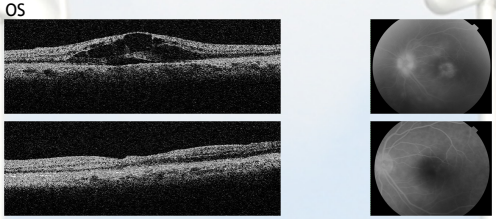
OD OS



Fluorescein angiography showing vasculitis before (top) and after (bottom) starting with adalimumab.

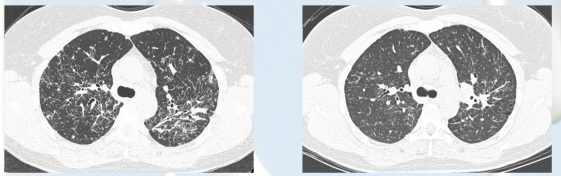
Figure 3.

OS



Optical coherence tomography (left) and fluorescein angiography (right) of OS showing macula edema before (top) and after (bottom) starting with adalimumab.

Figure 4.



HRCT before and after one year treatment with 40 mg adalimumab showing a reduction of the parenchymal lesions.

Table 1. Summary of inflammatory laboratory parameters and Fatigue Assessement Scale (FAS) of the studied sarcoidosis patients and the effect on clinical manifestations after 6 and 12 months of treatment with adalimumab.

	Total population (n=26, baseline)	After 6 months (n=26)	After 1 year (n=25)
CRP (2-9 μg·mL^{-1})	4.8±5.3	2.4±2.6*	3.6±4.4*
ACE (9-25 U·L^{-1})	19±8	14±9*	15±10
sIL-2R (240- 3154 pg·mL^{-1})	2803±2224	1888±1537*	2188±1801*
FAS (<22: no fatigue)	31.1±11.1	28.5±7.8*	28.9±10.0*

All values are presented as mean±SD. All lung function values are presented as percentage of predicted values. *= $p<0.01$

Conclusions

Adalimumab appeared successful in sarcoidosis patients with refractory chronic non-infectious uveitis with:

- improvement of intraocular inflammatory signs
- reduction of the inflammatory markers of disease activity
- improvement of the DLCO (in those with a reduced DLCO)
- reduction of fatigue

Future randomized studies are needed to determine the optimal dosage, dose interval and duration of therapy in refractory multisystemic sarcoidosis.

e-mail: r.mostard@atriummc.nl
website: www.ildcare.eu