Successful treatment of adalimumab in a child with Vogt-Koyanagi-Harada: which is the best available systemic treatment?

Sir,

Vogt-Koyanagi-Harada (VKH) disease, most frequent in Asiatic, Hispanic, and Am erindian populations, is a rare multi-system autoimmune disorder with a prevalent ocu lar, auditory, neurologic and dermatologic involvement (1). Herein we report a paediatric case of VKH successfully treated with adalimumab (ADA) as first not steroid drug.

An 8-year-old boy was admitted to our hospital for red eyes and visual impairment from 15 days. He was the second child of non-consanguineous Egyptian parents, with silent family history. He had no relevant past medical history including ocular trauma or surgery.

On first examination, visual acuity (VA) was 1.6 logMAR and intraocular pressure (IOP) was normal bilaterally. The patient showed bilateral conjunctival congestion with perikeratic hyperaemia, anterior uvei tis (cells 1+, flare 1+), and posterior synechiae. Fundus revealed severe vitreitis, swollen and hyperaemic optic disc, and serous retinal detachment in posterior and inferior retina. Optical coherence tomography confirmed bilateral serous detachment of neuroepithelium of posterior and inferior retina. The retinography highlighted a diffuse pigmentary dystrophy bilaterally. The patient did not complain of systemic symptoms, and physical examination was normal.

Anti-nuclear antibodies, anti-saccharomyces cerevisiae antibodies and antineutrophil cytoplasmic antibodies were negative. Angiotensin converting enzyme was in the normal range. Human leukocytes antigen B27 and B51 were absent. A comprehensive systemic treatment was intended as the reduction of ocular inflammation according to the Standardization of Uveitis Nomenclature (SUN) working group criteria (2,3).

Table I. Summary about the available papers on the different treatments other than corticosteroids for paediatric VKH. All patients reported receiving systemic corticosteroid.

<table>
<thead>
<tr>
<th>References</th>
<th>Ethnicity</th>
<th>n. of patients</th>
<th>M:F</th>
<th>Age range</th>
<th>Treatment carried out</th>
<th>Effectiveness of treatment (n of patients)</th>
<th>Initial VA (logMAR)</th>
<th>Final VA (logMAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farah 2002 (4)</td>
<td>White Brazilian</td>
<td>1</td>
<td>0:1</td>
<td>9</td>
<td>CsA, None</td>
<td>1 (100%)</td>
<td>&lt;0.3</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Al Hemidan 2006 (5)</td>
<td>Saudi Arabian</td>
<td>1</td>
<td>0:1</td>
<td>3</td>
<td>tCCS+CsA</td>
<td>sCCS+C+CsA (100%)</td>
<td>1 (&gt;0.3)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Soheilian 2006 (12)</td>
<td>Iranian</td>
<td>10</td>
<td>2.8</td>
<td>4-14</td>
<td>sCCS (10)</td>
<td>sCCS (10)</td>
<td>3 (30%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Kahn 2006 (6)</td>
<td>Turkish</td>
<td>2</td>
<td>0.2</td>
<td>11-18</td>
<td>tCCS (2)</td>
<td>tCCS (2)</td>
<td>1 (50%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Perente 2007 (8)</td>
<td>Turkish</td>
<td>1</td>
<td>0:1</td>
<td>9</td>
<td>tCCS CS, MTX</td>
<td>None</td>
<td>1 (100%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Khalifa 2010 (14)</td>
<td>Hispanic, American Japanese</td>
<td>2</td>
<td>0.2</td>
<td>10-12</td>
<td>CYC (1),</td>
<td>IFX+MTX (2)</td>
<td>2 (100%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Ojaimi 2012 (9)</td>
<td>Philippine-English</td>
<td>1</td>
<td>0:1</td>
<td>11</td>
<td>sCCS MTX,</td>
<td>sCCS (1)</td>
<td>1 (100%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Jeroudi 2014 (15)</td>
<td>Hispanic</td>
<td>1</td>
<td>0:1</td>
<td>15</td>
<td>sCCS MTX</td>
<td>ADA</td>
<td>1 (100%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Umran 2015 (16)</td>
<td>Arab</td>
<td>1</td>
<td>0:1</td>
<td>10</td>
<td>sCCS, MTX</td>
<td>RTX</td>
<td>1 (100%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Caso 2015 (10)</td>
<td>NA</td>
<td>1</td>
<td>0:1</td>
<td>17</td>
<td>sCCS, RTX</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Couto 2018 (2)</td>
<td>Argentinian</td>
<td>3</td>
<td>2:1</td>
<td>3</td>
<td>AZA (3) ADA (3)</td>
<td>ADA (3)</td>
<td>1 (33%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Busmann 2018 (3)</td>
<td>Hispanic</td>
<td>1</td>
<td>0:1</td>
<td>9</td>
<td>MTX+IFX</td>
<td>sCCS, IFX</td>
<td>1 (100%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>Su 2019 (11)</td>
<td>Chinese American</td>
<td>1</td>
<td>0:1</td>
<td>12</td>
<td>sCCS, ADA</td>
<td>sCCS, ADA</td>
<td>1 (100%)</td>
<td>0.3-0.99</td>
</tr>
<tr>
<td>ALQahtani DS 2019 (13)</td>
<td>Arab</td>
<td>1</td>
<td>0:1</td>
<td>4</td>
<td>tCCS, iCCS</td>
<td>sCCS+MTX+ADA</td>
<td>1 (100%)</td>
<td>0.3-0.99</td>
</tr>
</tbody>
</table>

sCCS: systemic corticosteroids; tCCS: topical corticosteroids; iCCS: intraocular corticosteroids; MMF: mycophenolate mofetil; ADA: adalimumab; IFX: infliximab; ATG: anti-thymocyte globulin; RTX: rituximab; INF-α: interferon-α; ADA: adalimumab; IFX: infliximab; MMF: mycophenolate mofetil.

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Letters to the Editors

Efficacious treatment was intended as the reduction of ocular inflammation according to the Standardization of Uveitis Nomenclature (SUN) working group criteria (Am J Oph thalmol 2005; 140: 509-16).
pared to adults, therefore a prompt diagnosis and aggressive treatment result mandatory (2). Systemic corticosteroids is the mainstay of initial treatment, but its prolonged use results in relevant side effects. Thus, a quick steroid tapering is of utmost importance and an immunosuppressant approach is necessary.

We performed a systematic literature review (time period 1990 – 10th November 2020) to evaluate different reported treatments other than corticosteroids in paediatric VKH. Articles were eligible if in English and reported inflammatory eye outcomes. Overall, we found 28 additional children with VKH (Table 1). Among the common disease-modifying anti-rheumatic drugs (DMARDs), 7 children received cyclosporine A, 4 azathioprine, 2 mycophenolate mofetil and 15 methotrexate (MTX) reporting the treatment as efficacy in 2/7 (28.6%), 0/4, 0/2, and 6/15 (40%) in monotherapy respectively (2-16). Among biologic drugs, 4 patients received infliximab with concomitant MTX describing an ocular response in 3/4 (75%) patients (3, 6, 14). Rituximab was administered in 2 patients with resolution of ocular inflammation in both patients (10, 16). Six patients received ADA, in 2 cases associated with MTX, resulting efficacious in all patients (2, 11, 13, 15).

In accordance with the literature data, our patient showed a complete resolution of ocular inflammation and complete recovery of VA after ADA starting. Conversely what previously reported, we promptly administered ADA soon after the steroid induction, without use of traditional DMARDs. Although the small number of described cases, biologic therapies seem to provide a better efficacy compared to classic immunosuppressants in paediatric VKH. Considering the aggressive course and potentially invalidating complications these treatments should be considered in association to corticosteroids as first-line therapy in selected cases.

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References