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Prevalence of subclinical anterior uveitis in adult patients with inflammatory bowel disease

F D Verbraak, M C J M Schreinemachers, A Tiller, S J H van Deventer, M D de Smet

Abstract

Aim—To assess the prevalence of subclinical anterior uveitis in adult patients with inflammatory bowel disease.

Methods—In 179 consecutive patients (96 with Crohn’s disease, 55 with ulcerative colitis, and 28 with inflammatory bowel disease of undetermined nature) without previous or concurrent ocular complaints, quantitative flare measurements were obtained with the Kowa FC laser flare to detect the presence of subclinical uveitis.

Results—The mean flare value was 3.9 (SD 1.1) ph/ms in patients younger than 30 years of age, rising to 5.8 (2.5) ph/ms in those over 60 years of age. No measurement performed in this patient population fell outside the mean observed value plus or minus SD of the normal controls within the same age category.

Conclusion—In an adult population of 179 consecutive patients with inflammatory bowel disease the presence of a form of subclinical uveitis, as described by Hofley et al in a group of juvenile patients, is highly unlikely.

(Urban: 85:219–221)
In all patients with (epi)scleritis no active ocular inflammation was present at the time of flare.

**Table 1** Mean flare values in photons/ms in patients with ocular inflammatory disease.

<table>
<thead>
<tr>
<th>Age</th>
<th>No</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20*</td>
<td>4</td>
<td>4.0</td>
<td>1.1</td>
<td>2.9</td>
<td>5.5</td>
</tr>
<tr>
<td>20–29</td>
<td>31</td>
<td>4.1</td>
<td>1.2</td>
<td>3.1</td>
<td>7.1</td>
</tr>
<tr>
<td>30–39</td>
<td>25</td>
<td>4.2</td>
<td>1.0</td>
<td>2.7</td>
<td>7.4</td>
</tr>
<tr>
<td>40–49</td>
<td>21</td>
<td>4.9</td>
<td>1.0</td>
<td>3.7</td>
<td>7.6</td>
</tr>
<tr>
<td>50–59</td>
<td>9</td>
<td>4.3</td>
<td>1.3</td>
<td>2.5</td>
<td>6.1</td>
</tr>
<tr>
<td>60–69</td>
<td>4</td>
<td>5.1</td>
<td>1.2</td>
<td>3.4</td>
<td>6.2</td>
</tr>
<tr>
<td>70+</td>
<td>2</td>
<td>6.3</td>
<td>3.9</td>
<td>3.6</td>
<td>9.0</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>5.5</td>
<td>1.1</td>
<td>3.3</td>
<td>9.0</td>
</tr>
</tbody>
</table>

The mean for each different age group is the mean of the averaged flare value measured in the left and right eye of each patient.

Controls were accompanying persons of patients seen in the ophthalmic outpatient clinic without a history of eye or intestinal problems.

**Table 2** Mean flare values in photons/ms in patients with ocular inflammatory disease.

<table>
<thead>
<tr>
<th>Ocular diagnosis</th>
<th>IBD diagnosis</th>
<th>No of patients</th>
<th>Flare (photons/ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous uveitis</td>
<td>Crohn’s disease</td>
<td>2</td>
<td>4.1</td>
</tr>
<tr>
<td>(Epi)scleritis</td>
<td>Crohn’s disease</td>
<td>5</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Ulcerative colitis</td>
<td>3</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>Indeterminate IBD</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>Anterior uveitis</td>
<td>Crohn’s disease</td>
<td>4</td>
<td>58</td>
</tr>
</tbody>
</table>

**Discussion**

Contrary to the findings of Hofley et al. and Daum et al., we were unable to identify a single case of subclinical uveitis among 179 adult patients with inflammatory bowel disease using the laser flare meter. All flare values observed in the patients fell within the age corrected mean (SD) flare value observed in the normal controls. There was no difference between the flare values determined in the normal population in this study and those performed by previous authors in healthy eyes.

We consider it highly unlikely that the method used was unable to detect subclinical uveitis. The laser flare photometer is capable of detecting very slight increases in aqueous humour opalescence, something which was not possible in previous studies in which a graded method was unable to detect subclinical uveitis among 179 adult patients with inflammatory bowel disease and clinically manifest anterior uveitis in accordance with published measurements.

We compared the patients with Crohn’s disease in this study with those reported by Hofley et al. with respect to activity of the bowel disease, colonic location of the disease process, and the use of oral corticosteroid medication at the time of the flare measurement (data not shown). There was no significant difference in either the activity (51% versus 41%, p=0.6) or the colon involvement of the inflammatory bowel disease (64% versus 60%, p=0.7). However, there was a difference in the use of oral corticosteroid medication (25% versus 46%, p=0.05) which could camouflage an inflammation elsewhere in the body such as anterior uveitis. Nevertheless, it seems highly unlikely that this difference explains the total absence of uveitis in the present study population.
The most striking difference between the two study populations is the difference in age. Hofley et al exclusively examined a group of juvenile patients with inflammatory bowel disease while, according to the protocol, all patients in our study were adults. It is possible that, unlike adults, juveniles may sometimes show a mitigated course of inflammatory disease because of a difference in the immune response in these autoimmune driven diseases. Another possible explanation is that juvenile patients are relatively insensitive compared with adults with respect to the discomfort of an ocular inflammation.

In conclusion, in an adult population of 179 consecutive patients (96 with Crohn's disease, 55 with ulcerative colitis, and 28 with inflammatory bowel disease of undetermined nature) all flare values measured with the laser flare meter were within normal limits. The presence of a form of subclinical uveitis in an adult population with inflammatory bowel disease, as described by Hofley et al in a group of juvenile patients, is highly unlikely.

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