Prevalence of subclinical anterior uveitis in adult patients with inflammatory bowel disease
Verbraak, F.D.; Schreinemachers, M.C.J.M.; Tiller, A.; van Deventer, S.J.H.; de Smet, M.D.

Published in:
British journal of ophthalmology

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
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 and M D de Smet

Br. J. Ophthalmol. 2001;85;219-221
doi:10.1136/bjo.85.2.219

These include:

This article cites 26 articles, 4 of which can be accessed free at:
http://bjo.bmjournals.com/cgi/content/full/85/2/219#BIBL

You can respond to this article at:
http://bjo.bmjournals.com/cgi/eletter-submit/85/2/219

Receive free email alerts when new articles cite this article - sign up in the box at the top right corner of the article

Articles on similar topics can be found in the following collections

Other ophthalmology (2373 articles)

To order reprints of this article go to:
http://www.bmjournals.com/cgi/reprintform

To subscribe to British Journal of Ophthalmology go to:
http://www.bmjournals.com/subscriptions/
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.

(Br J Ophthalmol 2001;85:219–221)

Uveitis is associated with numerous systemic diseases. In patients with inflammatory bowel disease, Crohn’s disease, or ulcerative colitis a number of ocular abnormalities have been described, most commonly anterior uveitis and episcleritis. Other ocular complications are described more incidentally such as keratopathy, intermediate uveitis, retinal vasculitis, and multifocal choroiditis.1–12

The reported prevalence of uveitis in patients with inflammatory bowel disease varies from 2% to 10%.2,4,8,9,13 Anterior uveitis has been associated with subclinical inflammatory bowel disease14 and has been reported in patients with clinically manifest inflammatory bowel disease and subclinical uveitis. However, the latter has only been observed in children.15,16

Daum et al observed the presence of asymptomatic uveitis in six out of 19 children with Crohn’s disease, while Hofley et al reported six cases in 97 juvenile patients with Crohn’s disease. Neither author identified any case of uveitis in 57 patients with ulcerative colitis.17,18 Asymptomatic uveitis presented as cells and/or increased flare in the anterior chamber of one or both eyes observed by slit lamp examination. This subclinical anterior uveitis did not cause discomfort or visual disturbance and completely disappeared after several weeks without any specific treatment. To our knowledge the presence of subclinical anterior uveitis has not been studied in adult patients with inflammatory bowel disease.

Methods

Patients

A total of 201 consecutive patients visiting the inflammatory bowel diseases clinic of the Academic Medical Centre between July 1998 and April 1999 were asked to participate in the study. Exclusion of patients was based on a present or previous diagnosis of clinically manifest ocular inflammation including all types of uveitis (n=2) and episcleritis (n=9). Patients with ocular disease known to influence flare values such as diabetes mellitus, vascular occlusions, ocular tumours, medically treated glaucoma, recent fluorescein angiography, or previous ocular surgery (n=39) were excluded. In two patients flare values could not be measured.

All patients included in the study gave their signed informed consent to participate. The measurements were taken by the same person who was not informed about the clinical diagnosis, clinical course, or the treatment received by the patient.

Clinical data from each patient on the status of their inflammatory bowel disease were collected at the same time as the flare measurement and included duration and type of inflammatory bowel disease, present medication, localization of disease process within the intestinal system, and disease activity.

All 54 normal controls were recruited from persons accompanying patients to the ophthalmology clinic. In addition to the exclusion criteria stipulated for the patients, normal controls were not allowed to have a history of any important systemic disease or any intestinal complaints.

Laser flare measurement

Laser flare measurements were made using the Kowa FM-500 laser flare meter (Kowa Electronics and Optics, Tokyo, Japan). Measurements were made without the use of mydriatics according to previously described methodology of laser photometry.18,20,25–26 In short, seven measurements with an acceptably low...
difference in background flare between the upper and lower adjoining regions of the measurement window (less than 10% of the signal) were recorded for each patient. Disregarding the highest and the lowest values, the mean (SD) signal was taken as the final result for each eye. Flare was expressed as photon counts/ms.

Results
A total of 179 consecutive patients were included, 96 with Crohn's disease, 55 with ulcerative colitis, and 28 with inflammatory bowel disease of undetermined nature. No significant differences were observed in flare measurements between the right and left eyes of any patient, so the mean photon count of both eyes is presented and used to estimate the mean photon count for each diode.

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.

SD = standard deviation of the mean flare value within each age group; min = minimum flare value measured in one of the eyes measured within a patient belonging to that particular age group; max = maximum flare value measured in one of the eyes measured within a patient belonging to that particular age group; indeterminate IBD = patients with a diagnosis of inflammatory bowel disease without a specific diagnosis at the time of measurement.

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

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 clinical assessment was used. Hofley et al used the slit lamp to detect flare in the anterior chamber in his patients. Previous studies established that clinically evident pathological flare in the anterior chamber using the slit lamp corresponds on the laser flare meter. All flare values 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 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 colonic 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.

Table 1  Mean flare values in photons/ms according to age in patients and controls.

<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>3.8</td>
<td>0.8</td>
<td>2.2</td>
<td>5.3</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>0.9</td>
<td>2.2</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>55</td>
<td>28</td>
<td></td>
<td></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.

*Patients in the youngest age category were all between 18 and 20 years of age.

SD = standard deviation of the mean flare value within each age group; min = minimum flare value measured in one of the eyes measured in a patient belonging to that particular age group; max = maximum flare value measured in one of the eyes measured in a patient belonging to that particular age group; indeterminate IBD = patients with a diagnosis of inflammatory bowel disease without a specific diagnosis at the time of measurement.

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></td>
<td></td>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Previous uveitis</td>
<td>Crohn’s disease</td>
<td>2</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>Ulcerative colitis</td>
<td>5</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>Indeterminate IBD</td>
<td>1</td>
<td>3.7</td>
</tr>
<tr>
<td>Anterior uveitis</td>
<td>Crohn’s disease</td>
<td>4</td>
<td>58</td>
</tr>
</tbody>
</table>

IBD = inflammatory bowel disease.

In all patients with (epi)scleritis no active ocular inflammation was present at the time of flare measurement. In all patients with anterior uveitis the disease was active at the time of measurement.
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.

This study was supported by the Stichting Haagsh Oogheelkundig Fonds (’s Gravenhage) and Stichting Blindenhulp (’s Gravenzande).