CORRESPONDENCE

Visual limitations assessment in patients with glaucoma

EDITOR—It is well known that patients with glaucoma develop field defects in their field of vision. It is generally assumed that these defects interfere with the affected individual's visual function.

This study explored the relation between visual field loss and the perception of visual disabilities in patients with glaucoma. A questionnaire designed to identify vision associated limitations in daily activities (VALDA, Table 1) was applied to 231 patients with glaucoma who had reliable computerised visual field examination with the Humphrey 24–2 program. Visual field loss was quantitatively evaluated (“mean deviation” (MD), “pattern standard deviation” (PSD)). The relation between the presence of VALDA and visual field defects, visual acuity, and age was investigated.

There were 91 (39.4%) males and 140 (60.6%) females. The ages ranged from 13–90 years, with a mean age of 68.5 (SD 12.6) years. Most patients were white (n=213, 92.2%) and 18 (7.7%) were black. The mean duration since the diagnosis of glaucoma was 8.7 (SD 8.1) years (range 1–40). Ninety eight subjects (42%) reported a subjective perception of vision associated limitations in daily activities. Among the limitations mentioned by these patients, problems with night driving ranked first (97%) followed by difficulties reading newspapers (33%), and driving at any time (27%); limitations doing outdoor activities were present in 10%. The perception of VALDA was related to visual acuity and was significantly greater in older patients.

We analysed in patients with visual acuity better than or equal to 20/40 in both eyes (127 patients) the relation between the visual field defects and the VALDA score (Table 2). The perception of VALDA was related to the MD loss in both eyes, but not to the PSD.

COMMENT

Monocular visual field examinations are frequently used clinically in monitoring glaucoma, but, from a functional viewpoint, may be of limited value. A questionnaire (VALDA) was considered when the answer was “always” or “frequently” in 10 of the items. Ordinal values were assigned to the responses (always or frequently = 4, seldom or never = 0). Limitation in daily activities was considered present when the score of VALDA was more than one.

Table 2 Relation between amounts of visual field loss in both eyes and perception of VALDA in patients with visual acuity better than or equal to 20/40 in both eyes

<table>
<thead>
<tr>
<th>Visual field loss in both eyes</th>
<th>No of patients (n=127)</th>
<th>% Of patients referring VALDA (n=25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N, N)</td>
<td>37</td>
<td>2.7%</td>
</tr>
<tr>
<td>(N, +)</td>
<td>12</td>
<td>8.3%</td>
</tr>
<tr>
<td>(+, +)</td>
<td>26</td>
<td>23.0%</td>
</tr>
<tr>
<td>(N, +)</td>
<td>5</td>
<td>25.0%</td>
</tr>
<tr>
<td>(+, +)</td>
<td>23</td>
<td>39.1%</td>
</tr>
<tr>
<td>(+++, +)</td>
<td>7</td>
<td>50.0%</td>
</tr>
<tr>
<td>(++, +)</td>
<td>11</td>
<td>83.6%</td>
</tr>
<tr>
<td>(+++, +)</td>
<td>6</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Visual field loss was separated into four groups by mean deviation (MD): (1) N = normal (MD = <2.6 dB); (2) + = 2.6 dB<MD <9.5 dB; (3) ++ = 9.5 dB<MD <18.5 dB; and (4) +++ = MD >18.5 dB.

binocular visual fields or combined monocular visual fields would be more helpful in evaluating visual function. Esternan proposed a binocular scoring system of visual fields. However, software to perform Esternan’s binocular scoring system in automated perimeters is still under clinical investigation. Bernt-Petersen was the first to point out that some patients with good visual function in spite of poor visual acuity.

Because of this, he suggested that the performance of everyday tasks that are dependent on vision must be assessed in evaluations of visual function. It is the experience of most ophthalmologists that problems resulting from visual field loss contribute to those caused by reduced visual acuity. Thus, global assessment of visual limitations may provide information about a patient’s well-being, complementing the visual acuity or visual field data. Evaluation of visual function and quality of life in patients with ocular diseases has been done with several questionnaires. In glaucoma patients Parrish1 and Gutierrez et al2 found that vision targeted questionnaires were more sensitive than generic health related quality of life measure to visual field loss.

In this study, we found that the perception of limitation in daily activities is closely related to a general loss of visual field (MD loss) in both eyes. Although visual acuity played an important role in vision (that is, VALDA), we found that, even with good visual acuity in both eyes, patients with high MD loss in both eyes reported a high rate of limitations in daily life. Our finding that few patients with bilateral normal visual fields reported VALDA (2.7%) demonstrates that patients rarely have remarkable functional disabilities before the appearance of clinically detectable visual field defects.

In conclusion, a questionnaire regarding vision associated limitations in daily activities provides information about patients’ well-being. Visual limitations, as measured in this study, appear to be related to the total amount of visual field loss. Some patients with visual field loss do not have any limitation in visual function.

DA-WEIN LU  
Glucoma Service, Wde Eye Hospital, Jefferson Medical College, Philadelphia, Pennsylvania, USA and Tri Service General Hospital, Taipei, Taiwan

AUGUSTO AZUARA-BLANCO  
GEORGE L SPAETH  
SUREKHA COLLUR  
MATTHEW A SPEICHER  
SILVANA ARAUJO  
Glucoma Service, Wde Eye Hospital, Jefferson Medical College, Philadelphia, Pennsylvania, USA

Correspondence to: Augusto Azuara-Blanco, MD, PhD, Department of Ophthalmology, B-Floor, South Block, Queen’s Medical Centre, Nottingham, NGT 2UH

BOOK REVIEW


In the preface of this book, the aim of promoting the safe use of contact lenses is stated. The text complements this by reason used of the scientific literature, and addresses the philosophical nature of the way to advise the modern lens wearer in the balance between ease of use, safety to the cornea, and reliability of the lens in the less than perfect hands of the wearer, and it attempts to define a paradigm for lens wear for the future with current available lens materials.

Divided into two sections, the shorter Section I concentrates on the essential and relevant anatomy and physiology of the cornea and preocular tear film. There is also a good introductory chapter on corneal topography. Each chapter is concise, clearly set out, and well illustrated and there is reference to and presentation of experimental evidence for the information provided. It provides an excellent introduction to the second section.

Section II concentrates on the development of the concept of disposable contact lens. The opening chapter is long, but very readable as it traces the evolution of the contact lens, from original glass to modern materials, and manufacturing methods with some perspective on the commercial decisions behind the lens design. There is a summary appendix defining the milestones for the reader who may not wish to wade through the whole chapter.

The other chapters address the modern demands of contact lens design, patient preferences, safety, and complications.
Ophthalmic Clinical, University of Creteil
The 3rd international symposium will be held on 21 November 1998 at the Ophthalmological Clinic, University of Creteil. Further details: Professor G Soubrane, Chef de Service, Clinique Ophthalmologique Universitaire de Creteil, Centre Hospitalier Intercommunal, 40 Avenue de Verdun, 94010 Creteil, France. Fax: 01 45 17 52 27.

VIIth International Symposium on Graves' Ophthalmopathy
The VIIth International Symposium on Graves' Ophthalmopathy will be held on 27-28 November 1998 in Amsterdam. Further details: Amsterdam Thyroid Club, Department of Endocrinology, F5-171, Academisch Medisch Centrum, Meibergdreef 9, 1105 AZ Amsterdam, Netherlands.

Hong Kong Ophthalmological Symposium 98
The Hong Kong Ophthalmological Symposium 98 on myopia will be held on 28-29 November 1998 at the Hong Kong Convention and Exhibition Centre. Further details: Dr. Woon-ming Chan, Secretary, Organising Committee, Hong Kong Ophthalmological Symposium 98, University Eye Centre, 3/F, Hong Kong Eye Hospital, 147K Argyle Street, Kowloon. (Tel: (852) 2761 9128; fax: (852) 2715 0089; email: cohk@netvigator.com)

Singapore National Eye Centre
The 3rd SNEC international meeting and 11th international meeting on cataract, implant, microsurgery and refractive kerato-plasty (ICMRIK) will be held at the Shangri-La Hotel, Singapore on 28-30 November 1998. Further details: Organising Secretariat, 3rd SNEC International Meeting and 11th ICMIRK, Singapore National Eye Centre Pte Ltd, 11 Third Hospital Avenue, Singapore 168751. (Tel: (65) 2277-255; fax: (65) 2277-290/1)

Office of Continuing Medical Education
The 11th Annual Wilmer Institute’s Current Concepts in Ophthalmology will be held on 10-12 December 1998 at the Johns Hopkins Medical Institutions. Further details: Program Coordinator, Johns Hopkins Medical Institutions, Office of Continuing Medical Education, Turner 20/720 Rutland Avenue, Baltimore, MD 21205, USA. (Tel: (410) 955-2959; fax: (410) 614-8613; email: cmenet@som.adm.jhu.edu)

American Academy of Optometry—Academy '98
The American Academy of Optometry, Academy '98 will be held on 10-14 December 1998 at the San Francisco Hilton and Towers, San Francisco, California, USA. The call for abstracts may be requested at (301) 984-1441 or meetings@aaoptom.org or on the web site www.aaopt.org

7th Rotterdam International Skull Base Day/Esser course
The 7th Rotterdam International Skull Base Day/Esser one day course on orbital and peri-orbital lesions will be held on 23 January 1999. Further details: Mrs K Simpson, POBox 1738, 3000 DR Rotterdam, Netherlands. (Tel: +31 10 4089778; fax: +31 10 4362762)

Ophthalmological Clinic, University of Creteil
An international symposium on the macula will be held on 26-27 March 1999 at the Ophthalmological Clinic, University of Creteil. Further details: Professor G Soubrane, Chef de Service, Clinique Ophthalmologique Universitaire de Creteil, Centre Hospitalier Intercommunal, 40 Avenue de Verdun, 94010 Creteil, France. Fax: 01 45 17 52 27.
XII Congress European Society of Ophthalmology
The XII Congress European Society of Ophthalmology will be held in Stockholm, Sweden on 27 June–1 July 1999. Further details: Congress (Sweden) AB, PO Box 5819, S-114 86 Stockholm, Sweden. (Tel: +46 8 459 66 00; fax: +46 8 661 91 25; email: soe@congrex.se; http://www.congrex.com/soe/)

4th Meeting of the European Neuro-Ophthalmology Society
The 4th meeting of the European Neuro-Ophthalmology Society will be held on 29 August–2 September 1999 in Jerusalem, Israel. Further details: Secretariat, 4th Meeting of the European Neuro-Ophthalmology Society, PO Box 50006, Tel Aviv, 61500, Israel. (Tel: 972-3-514000; fax: 972-3-5175674/972-3-5140077; email: Eunos99@kenes.com)

Ophthalmological Clinic, University of Creteil
An international symposium on the macula will be held on 1–2 October 1999 at the Ophthalmological Clinic, University of Creteil. Further details: Professor G Soubrane, Chef de Service, Clinique Ophthalmologique Universitaire de Creteil, Centre Hospitalier Intercommunal, 40 Avenue de Verdun, 94010 Creteil, France. Fax: 01 45 17 52 27.

Jules François Prize
The 2000 Jules François Prize of $100 000 for scientific research in ophthalmology will be awarded to a young scientist who has made an important contribution to ophthalmology. All topics in the field of fundamental and/or clinical research in ophthalmology will be considered. The application should be sent jointly with a curriculum vitae, the list of all publications, and three copies of the candidate’s 10 most relevant publications to Jules François Foundation Secretary, Professor Dr M Hanssens, Dienst Oogheelkunde, de Pintelaan 185, B-9000 Gent, Belgium. Deadline for applications 31 December 1999.
Visual limitations assessment in patients with glaucoma

DA-WEN LU, AUGUSTO AZUARA-BLANCO, GEORGE L SPAETH, SUREKHA COLLUR, MATTHEW A SPEICHER and SILVANA ARAUJO

Br J Ophthalmol 1998 82: 1347
doi: 10.1136/bjo.82.11.1347

Updated information and services can be found at:
http://bjo.bmj.com/content/82/11/1347.1

These include:

References
This article cites 10 articles, 0 of which you can access for free at:
http://bjo.bmj.com/content/82/11/1347.1#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/