Use of GlaucoChart (Medisoft®) in the Identification of Stable Ocular Hypertensive and Glaucoma Suspect Patients

A. Porteous¹, R. Patel¹, S. Jungkim¹, F. Ahmed¹, E. Normando¹,³, N. Shumsky², D. Johnston², P. Bloom¹, M.F. Correiro¹,³, C. Migdal¹

¹Glaucoma Research Unit, Western Eye Hospital, London, United Kingdom; ²Medisoft Limited, Leeds, United Kingdom; ³Glucoma & Retinal Neurodegeneration Research Group, UCL Institute of Ophthalmology, London, United Kingdom.

INTRODUCTION

- The ability to use objective measures to differentiate stable glaucoma suspect and ocular hypertensive patients from those that have progressive disease is increasingly recognized as a priority in glaucoma.
- Recent NICE (National Institute for Health and Clinical Excellence) guidelines have highlighted the importance of identifying the ‘stable’ glaucoma patient who may be monitored in the community.¹
- The present study uses a glaucoma summary chart (GlaucoChart) that incorporates currently accepted individually measured parameters to create an overall trend analysis, thereby identifying those stable patients who could be safely followed up in the community.

METHODS

- Parameters for the GlaucoChart were chosen based on published literature, as previously described. These parameters were those transferred directly from the imaging devices into the Medisoft® (an ophthalmic electronic patient record system) database.
- A GlaucoChart was created on Medisoft® for each patient who had at least three reliable 24-2 SITA standard Humphrey visual field tests and three reliable HRT examinations.
- Patients were diagnosed as “glaucoma”, “glaucoma suspect” or “ocular hypertension” according to the EGS guidelines (2008)².
- Visual field parameters: 1. visual field index (VFI) 2. mean deviation (MD) 3. pattern standard deviation (PSD)
- HRT parameters: 4. rim volume 5. linear cup-to-disc ratio 6. mean retinal nerve fibre layer thickness
- Patients were categorized as progressing if there was a deteriorating linear trend in any ONE of the six parameters detailed above. Stability for visual fields or HRT was categorized as a non-deteriorating linear trend in all three respective parameters.

CONCLUSIONS

- This study shows that it is possible to differentiate between stable patients and those who may have progressive disease using the GlaucoChart.
- This study highlights the utility of GlaucoChart in providing easily interpretable data to identify patients requiring more specialist follow-up. This is demonstrated by the higher percentage of glaucoma suspect patients with stable disease compared to those with a definitive diagnosis of glaucoma.
- The GlaucoChart could potentially be used to safely monitor glaucoma patients in community eye clinics allowing hospital clinicians to focus on unstable patients.

RESULTS

<table>
<thead>
<tr>
<th>Glaucoma (Total 98)</th>
<th>Ocular Hypertension (Total 61)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable</td>
<td>33%</td>
</tr>
<tr>
<td>Progressing</td>
<td>67%</td>
</tr>
</tbody>
</table>

Glaucoma patients more likely to progress than suspect and OHT. Chi-Squared = 8.08 (p=0.0045)

Financial Disclosure

We received no financial support for this study. Technical support was provided by Medisoft Ophthalmology®.

References