

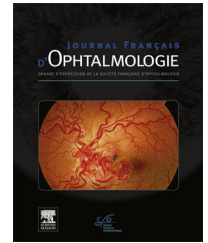


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ORIGINAL ARTICLE

The influence of the learning effect on automated perimetry in a Turkish population[☆]



Influence du phénomène d'apprentissage sur la périmétrie automatisée chez une population turque

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KEYWORDS

Learning effect;
Visual field;
Standard perimetry

Summary

Purpose. – To evaluate the influence of learning effect on the outcome of automated perimetry and to assess the factors associated with the learning effect in a Turkish population.

Methods. – The Swedish Interactive Threshold Algorithm (SITA) standard 30-2 test was performed on a Humphrey Visual Field Analyzer in 102 normal Turkish subjects who had not previously undertaken any form of perimetry. Each subject completed three testing sessions, each separated by at least one day. The SITA standard 30-2 testing sessions included both eyes. The right eye was always tested before left eye. The reliability parameters, test duration and visual field (VF) global indices (mean deviation [MD] and pattern standard deviation [PSD]) obtained from right eyes in the first and third sessions were compared to assess the learning effect. Change in these parameters between the first and third sessions was calculated, and the effect of gender, age and educational level on this change was evaluated.

[☆] Introduced at the World Congress of Glaucoma in June 2009, Boston, USA.

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Results. – The reliability parameters, test duration and VF global indices each improved between the first and third sessions ($P \leq 0.001$). The change in the parameters was greater in subjects over 50 years of age and with an educational level less than high school ($P \leq 0.01$). No correlation was found between learning effect and gender.

Conclusion. – In normal Turkish subjects, a significant learning effect was observed during VF testing with the SITA standard 30-2. The learning effect was correlated with age and educational level.

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MOTS CLÉS

Phénomène
d'apprentissage ;
Champ visuel ;
Périmétrie standard

Résumé

But. – Évaluer l'influence du phénomène d'apprentissage sur les résultats de la périmétrie automatisée et analyser les facteurs associés au phénomène d'apprentissage chez une population turque.

Méthode. – Le programme SITA 30-2 de l'appareil Humphrey a été utilisé pour examiner le champ visuel (CV) de 102 personnes turques n'ayant aucune expérience de la périmétrie auparavant. Chaque personne a réalisé trois examens de périmétrie, espacés d'au moins un jour. L'examen se composait du programme SITA standard 30-2 aux deux yeux. L'œil droit a toujours été examiné en premier. Les indices de fiabilité, la durée de l'examen et les indices globaux de CV (l'indice de déviation moyenne [MD] et l'indice de déviation localisée [PSD]) obtenus aux premier et troisième examens des yeux droits ont été comparés pour évaluer l'influence du phénomène d'apprentissage. Les changements dans ces paramètres entre les premier et troisième examen ont été calculés, et l'effet du genre, de l'âge et du niveau d'éducation sur ce changement a été évalué.

Résultats. – Les paramètres de fiabilité, durée de l'examen et les indices globaux de CV se sont améliorés entre les premier et troisième examen de CV ($p \leq 0,001$). Le changement des paramètres était plus grand chez les personnes de plus de 50 ans et avec un niveau d'éducation inférieur à celui de l'école secondaire ($p \leq 0,01$). Aucune corrélation n'a été trouvée entre le phénomène d'apprentissage et le genre.

Conclusion. – Un phénomène significatif d'apprentissage a été observé au cours de l'examen de CV en utilisant le programme SITA 30-2 de l'appareil Humphrey chez une population turque. Le phénomène d'apprentissage était corrélé avec l'âge et le niveau d'éducation.

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Introduction

Reliable visual field (VF) testing is crucial for the diagnosis and management of glaucoma patients. Although regular VF testing in glaucoma patients provides valuable information in the assessment of progression and management of therapy, test results should be interpreted with caution due to the subjectivity of this psychophysical test. For example, the reliability and global VF indexes may improve following successive tests, as the patient becomes familiar with VF testing. This phenomenon has been called the learning effect, and been well documented especially in standard automated perimetry (SAP) [1–5] and also in new tests such as short wavelength perimetry and frequency doubling technique [6,7].

The objective of this study is to evaluate the influence of the learning effect on the outcome of SAP and to assess the factors associated with the learning effect in Turkish people.

Methods

Subjects enrolled in the study were volunteers who presented with various complaints to the Department of Ophthalmology, Haydarpasa Training Hospital, Gulhane Military Medical Academy, Istanbul, Turkey, between March 2007 and November 2008. Only volunteers who had not previously undertaken any form of perimetry were included in the study. Inclusion criteria were: no history of ocular disease, normal ophthalmic examination, clear ocular media, corrected visual acuity of at least 0.8, refractive errors between -6.00 and $+5.00$, and astigmatism of less than 3.00 diopters. Once eligibility was established, written informed consent was obtained from all volunteers. The study procedures followed the tenets of the Declaration of Helsinki.

The Swedish Interactive Threshold Algorithm (SITA) standard 30-2 was performed on a Humphrey Visual Field Analyzer (Carl Zeiss Meditec Inc., Dublin, CA, USA) in

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