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Research Article

No Significant Gender Difference in Vision-Related Quality of Life of Anterior Uveitis Patients

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Abstract

Purpose: This study is set up to determine whether a difference exists in the self-reported vision-related quality-of-life (VR-QoL) between male and female anterior uveitis patients.

Methods: Questionnaire-based study. Patients, that presented with an unilateral anterior uveitis *de novo* in the years 2011-2016, were addressed in Winter 2016-2017 to fill in both the National Eye Institute Visual Functioning Questionnaire (NEI VFQ-25) and a questionnaire inquiring whether they were suffering from ocular complaints and whether they were treated for depressive moods. As primary endpoint of the study, the composite NEI VFQ-25 score was used as an indicator of the VR-QoL to evaluate its association with various patient characteristics with particular focus on gender differences.

Results: One hundred eleven patients that presented with an unilateral anterior uveitis *de novo* in the years 2011-2016 filled in both questionnaires. No statistically significant difference in VR-QoL was identified between men and women (p= 0.578). Patients with ocular complaints reported a significant lower VR-QoL than patients without symptoms (p=0.021), with no significant difference between sexes (p=0.273). Patients that had been treated for depressive moods scored significantly lower than patients without treatment for depressive moods (p=0.019), showing no significant gender difference (p=0.147). There was no significant difference between sexes in VR-QoL in the five years after diagnosis.

Conclusions: There is no significant difference in the self-reported VR-QoL between male and female anterior uveitis patients in the first five years after diagnosis.

Keywords: Uveitis; Anterior; Quality of life; Sex characteristics

Abbreviations

QoL: Quality of Life; VR: Vision-Related; NEI VFQ-25: National Eye Institute Visual Function Questionnaire; OCS: Overall Composite Score

Introduction

Uveitis is an encompassing term for intraocular inflammation, which includes many disease entities. The inflammation may be caused either directly by infectious agents, or by immune mediated mechanism [1]. Uveitis in general is a significant cause of visual handicap in the working age population [2]. The impact of uveitis on the quality of life (QoL) can be studied by validated instruments such as vision-related (VR)-QoL questionnaires. Previous studies indicated a poorer visual functioning and a lower general health status in uveitis patients as compared to healthy subjects. Recently Hui et al. published a study in which they extensively reviewed quality of life in a heterogeneous group with all types of uveitis (anterior, intermediate, posterior and panuveitis) [3]. Doing so, they found a statistically significant difference between men and women in the self-assessed VR-QoL by means of scores of the National Eye Institute Visual Function Questionnaire (NEI VFQ-25). It is useful to evaluate how the VR-QoL is affected in different types of uveitis entities separately and to investigate patient characteristics that may influence it. A study by Maca et al. indicated that among patients with HLA-B27 associated anterior uveitis, women exhibit a tendency towards poor perception of vision function and depressive moods [4]. Verhagen et al. assessed a gender difference in quality of life and in uveitis-associated-pain in a patient-requested cross-sectional survey study with patients with non-infectious uveitis [5]. Other studies have shown that visual acuity, chronicity, treatment regimens and location of the disease have impact on VR-QoL in patients with uveitis but did not report on gender differences [6,7]. Hoeksema et al. studied the VR-QoL in patients with HLA-B27 associated anterior uveitis specifically, and found that female gender was (among other factors) associated with moderately lower sub scores in visual functioning [8].

Inspired by these findings, we wondered if a gender difference in self-assessed quality of life is a lasting reproducible effect for patients in years following an anterior uveitis (which is the most common form of uveitis). We therefore approached uveitis anterior patients and inquired whether they suffered from uveitis symptoms and if they had been treated for depressive moods and compared the VR-QoL.

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Table 1: Characteristics of the patients stratified to the year of presentation with unilateral anterior uveitis *de novo*. Values are n and (%) or mean ± SD.

Cohort	2011	2012	2013	2014	2015	2016
Number of patients	18	14	14	17	31	17
Male/female	7 (39%)/11 (61%)	4 (29%)/10 (71%)	4 (29%)/10 (71%)	6 (35%)/11 (65%)	13 (42%)/18 (58%)	6 (35%)/11 (65%)
Age in years	63.5 ± 12.2	65.6 ± 15.7	59.5 ± 13.5	60.8 ± 14.4	54.9 ± 13.0	59.8 ± 17.2
Treated for depressive moods	3 (16.7%)	4 (28.6%)	3 (21.4%)	0 (0%)	7 (22.6%)	2 (11.8%)
Ocular symptoms	2 (11.1%)	2 (14.3%)	2 (14.3%)	2 (11.8%)	4 (12.9%)	4 (23.5%)
Assisted at filling in the questionnaires	4 (22.2%)	2 (14.3%)	2 (14.3%)	1 (5.9%)	4 (12.9%)	0 (0%)
NEI VFQ-25 score	85.3 ± 16.1	72.6 ± 20.6	84.8 ± 21.3	82.1 ± 16.8	83.9 ± 17.0	87.5 ± 9.9

NEI VFQ-25: National Eye Institute Visual Functioning Questionnaire-25.

Materials and Methods

In this questionnaire-based study, patients that presented with a unilateral anterior uveitis *de novo* at our ophthalmology department between January 1st 2011 and December 31st 2016 were selected from an existing database. Unilateral anterior uveitis *de novo* was defined as at least 0.5+ cells in the anterior chamber at slit-lamp biomicroscopy and no earlier recognised episode of uveitis [1]. We subsequently obtained information about patient characteristics by examining their medical records. Patients with bilateral involvement or other forms than anterior uveitis at the first presentation were excluded. The patients were then subdivided into six cohorts (2011, 2012, 2013, 2014, 2015 and 2016) according to the year in which they were diagnosed. All patients were addressed from end of 2016 to the beginning of 2017 and requested to fill in a Dutch version of the NEI VFQ-25 and an additional questionnaire for gathering general information [9].

- The NEI VFQ-25 is a validated questionnaire, which measures the VR-QoL and has been developed by the National Eye Institute [10]. This self-administered questionnaire consists of a base set of 25 vision-targeted questions representing 11 vision-related subscales, plus an additional single-item general health rating question. The overall composite score (OCS) is the average of the vision-targeted subscale scores, without the general health score. A score of 0 corresponds to the lowest and 100 to the highest VR-QoL [11].

- The additional questionnaire comprised the following three questions: [The original questions in Dutch are available upon request at the authors].

1. Complaints adhering to ocular inflammation are pain, redness, light sensitivity and decreased visual acuity. Do you suffer of ocular pain or redness of an eye or light sensitivity or decreased visual acuity at the present moment?

2. Have you ever been treated for the diagnosis depressive moods by your family doctor or by a psychologist or by a psychiatrist?

3. Did you fill in the questionnaires by yourself or were you assisted by someone else?

As primary endpoint of the study we used the composite NEI VFQ-25 score as an indicator of the VR-QoL to evaluate its association with various patient characteristics with particular focus on gender differences. As a secondary endpoint we evaluated the mean NEI VFQ-25 score in course of time after diagnosis.

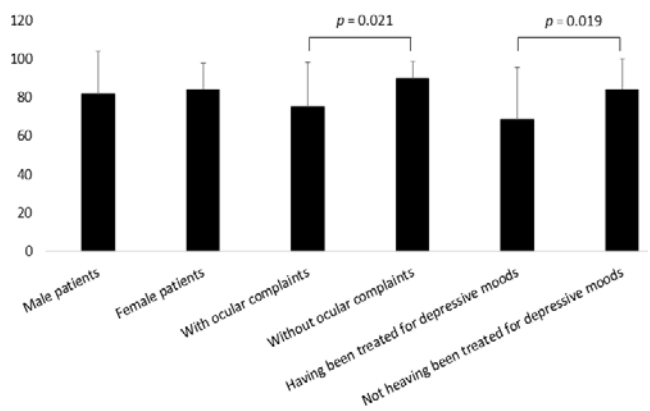

Figure 1: Mean NEI VFQ-25 scores for different patient characteristics, p-values are displayed when significant, NEI VFQ-25 = National Eye Institute Visual Functioning Questionnaire-25.

IBM SPSS Statistics version 20.0 was used for statistical analysis. The ANOVA one-way analysis was used to compare the different groups. The differences in NEI VFQ-25 scores were analysed using independent t-tests. The study was conducted in accordance with the principles of the 1995 Declaration of Helsinki (as revised in Edinburgh 2000) and approved by the regional medical ethics committee. Informed consent was obtained from all individual participants included in the study.

Results

From the database 452 patients were selected, who presented with a unilateral anterior uveitis *de novo* at our ophthalmology department between January 1st 2011 and December 31st 2016. One hundred eleven out of these patients (24.6%) returned the two questionnaires. Thirteen of these 111 patients (11.7%) reported that they had been assisted by someone else filling in the forms. The cohorts 2011-2016 contained a total of 18, 14, 14, 17, 31 and 17 patients respectively. The mean age was 58.8 ± 16.4 years. The male to female ratio was 40:71. The mean NEI VFQ-25 score for all patients studied was 83.1 ± 17.2. The cohorts were comparable regarding baseline characteristics (Table 1). The mean NEI VFQ-25 score for male patients (N=40) was 81.7 ± 22.1 and the mean score for female patients (N=71) was 83.9 ± 13.9, which is statistically not a significant difference (p=0.578). A summary of patient-characteristic findings is provided above (Figure 1). In total, 85.6% of the questioned patients did not report to have ocular complaints (ocular pain or redness of an eye or light sensitivity or decreased visual acuity), whereas 14.4% of the patients

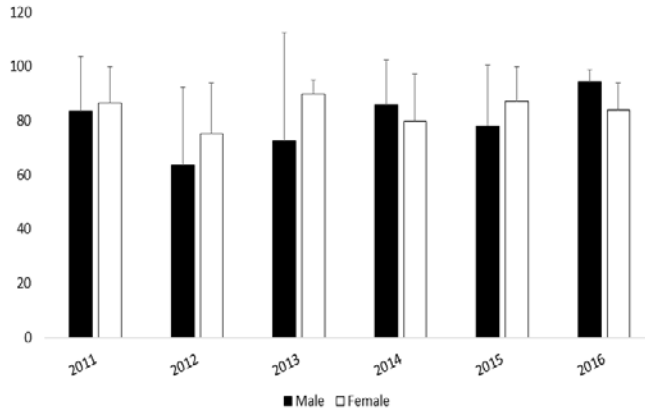

Figure 2: Mean NEI VFQ-25 scores of male and female patients in each cohort, NEI VFQ-25 = National Eye Institute Visual Functioning Questionnaire-25.

did report to have one or more of these ocular complaints. The mean NEI VFQ-25 score for patients without ocular symptoms was 89.6 and 75.0 (p=0.021) for patients that reportedly had ocular symptoms. The mean NEI VFQ-25 score for patients with ocular symptoms did not differ significantly between men and women (p=0.273). Overall, patients that reported to have been treated for depressive moods scored a mean NEI VFQ-25 score of 68.4 whereas patients that had not been treated for depressive moods scored a mean of 84.1 (p=0.019). Female patients in our study did not report to have been treated for depressive moods more often than male patients (p=0.294). Among patients known with depressive moods, mean NEI VFQ-25 scores did not differ significantly between men and women (p=0.147).

In each cohort, there was no significant difference in scores between both sexes (Figure 2). The mean NEI VFQ-25 score does not differ significantly between the different cohort groups (p = 0.094).

Discussion

We compared the vision-related quality-of-life of male and female patients that developed a first episode of unilateral anterior uveitis, but did not assess a significant gender difference in the 5 years after diagnosis. We subsequently stratified for ocular symptoms (ocular pain or redness of an eye or light sensitivity or decreased visual acuity) versus without ocular symptoms and we stratified for having been treated versus not having been treated for depressive moods. We observed a statistically significant difference in vision-related quality-of-life between ocular symptoms and no ocular symptoms and between people who have been treated for depressive moods and who have not. We did not assess any gender differences in these subgroups. For both men and women, sub analyses of the vision-related quality of life scores for the different cohorts showed no significant trend of worsening or improvement in coherence with the time after diagnosis.

The results of this study are discordant with the results of Hui et al [3]. Considering we solely included patients with anterior uveitis, the gender difference that has been assessed by Hui et al. may be more distinct in other uveitis types. A recent study by Zhang et al. in which the NEI VFQ-25 was also used, compared patients with anterior versus other types of uveitis and demonstrated that the quality of life in anterior uveitis was higher than other types of uveitis [12].

Limitations of our analysis include the limited size of the compared groups. The relatively low response rate might be due to the fact that many patients were contacted a vast time after they presented with the disease. This in contrast to the study of Hui et al, where patients were approached directly at the time of their ophthalmic review. Besides, symptoms, consequences and disabilities may dissolve over time, which makes a comparison in retrospect of the VR-QoL as a direct effect of an episode of uveitis less reliable. Sampling bias may have occurred by patients in our clinic who are not literate in the language in which the provided questionnaire was written, which might also explain that 11.7% of the questionnaires was filled in with assistance. Another limitation of the study is that characterisation of the subgroups of the patients is limited to the patients' response by questionnaires. No separate tool or scale was used to assess the psychological behaviour (depressive state) of the patients, neither were the ocular symptoms clinically objectivised nor graded.

Conclusion

We did not assess significant differences in the self-reported VR-QoL between male and female anterior uveitis patients in the first five years after diagnosis. Additional studies, with more patients and more specific phenotyping, are required to further elucidate the factors that have impact on VR-QoL of anterior uveitis patients.

References

1. Jabs DA, Nussenblatt RB, Rosenbaum JT. Standardization of Uveitis Nomenclature for reporting clinical data. Results of the First International Workshop. AM J Ophthalmol. 2005; 140: 509-516.
2. Rothova A, Suttorp-van Schulten MS, Treffers FW, Kijlstra A. Causes and frequency of blindness in patients with intraocular inflammatory disease. Br J Ophthalmol. 1996; 80: 332-336.
3. Hui MM, Wakefield D, Patel I, Cvejic E, McCluskey PJ, Chang JH. Visual Functioning and Health-related Quality-of-Life are Compromised in Patients with Uveitis. Ocul Immunol Inflamm. 2017; 25: 486-491.
4. Maca SM, Schiesser AW, Sobala A. Distress, depression and coping in HLA-B27-associated anterior uveitis with focus on gender differences. Br J Ophthalmol. 2011; 95: 699-704.
5. Verhagen FH, Wijnhoven R, Ossewaarde-van Norel J, Ten Dam-van Loon NH, Kuiper JJW, Imhof SM, et al. Prevalence and characteristics of ocular pain in non-infectious uveitis: a quality of life study. Br J Ophthalmol. 2018; 102: 1160-1166.
6. Schiffman RM, Jacobsen G, Whitcup SM. Visual functioning and general health status in patients with uveitis. Arch Ophthalmol. 2001; 119: 841–849.
7. Tan P, Koh YT, Wong PY, Teoh SC. Evaluation of the Impact of Uveitis on Visual-related Quality of Life. Ocul Immunol Inflamm. 2012; 20: 453-459.
8. Hoeksema L, Los LI. Vision-Related Quality of Life in Patients with Inactive HLA-B27–Associated-Spectrum Anterior Uveitis. PLoS One. 2016; 11: e0146956.
9. Van der Sterre GW, van de Graaf ES, Verezen CA, Meulendijks CFM, Schouten JSAG, Saxena R, et al. National Eye Institute visual functioning questionnaire – 25; Dutch Consensus Translation (VFQ-25/NL).
10. Mangione CM, Lee PP, Gutierrez PR, Spritzer K, Berry S, Hays RD. National Eye Institute Visual Function Questionnaire Field Test Investigators. Development of the 25-item National Eye Institute Visual Function Questionnaire. Arch Ophthalmol. 2001; 119: 1050–1058.
11. Mangione CM. NEI-VFQ Scoring Algorithm. Version 2000.
12. Zhang J, Yan HG, Chi Y, Guo CY, Yang L. Vision-and health-related quality of life in patients with uveitis. Zhonghua Yan Ke Za Zhi. 2016; 52: 429-436.