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Evaluation of Depression and Anxiety in Patients with Chronic Central Serous Chorioretinopathy

Kronik Santral Seröz Koryoretinopatili Hastalarda Depresyon ve Anksiyetenin Değerlendirilmesi

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ÖZET

Amaç: Kronik Santral Seröz Koryoretinopati (SSKR) hastalarında Beck Depresyon Ölçeği, Beck Anksiyete Ölçeği ve Anksiyete Duyarlılık İndeksi-3 ölçeği kullanılarak hastaların psikolojik durumlarını sağlıklı olgularla karşılaştırmak.

Gereç ve Yöntemler: Çalışmamız kesitsel klinik çalışma olarak planlanıp, Kasım 2023- Haziran 2024 tarihleri arasında Kronik SSKR tanısı ile Necmettin Erbakan Üniversitesi Tıp Fakültesi Hastanesi Retina biriminde takip ve tedavi altında olan 18-60 yaş arası 25 kronik SSKR hastası çalışma grubunu oluşturdu. Yaş ve cinsiyet uyumlu rutin göz kontrolü için polikliniğe başvuran 25 olgu da kontrol grubuna dahil edildi. Hasta ve kontrol grubuna en iyi düzeltilmiş görme keskinliği ve intraoküler basınç ölçümü, detaylı bir ön segment ve fundus muayenesini içeren tam oftalmolojik muayene yapıldıktan sonra Anksiyete Duyarlılığı İndeksi-3 (ADİ-3), Beck Depresyon Ölçeği (BDÖ) ve Beck Anksiyete Ölçeği (BAÖ) testleri uygulandı.

Bulgular: İki grup arasında ortalama yaş ve cinsiyet açısından istatistiksel olarak anlamlı fark saptanmadı (sırayla p=0.336, p=0.774). SSKR grubunda kontrol grubuyla karşılaştırıldığında BDÖ ve BAÖ skoru istatistiksel olarak anlamlı derecede yüksek bulundu (sırasıyla, p<0.001, p=0.013). Ayrıca SSKR grubunda ADİ-3 skoru da istatistiksel olarak anlamlı derecede yüksekti. (p=0.015)

Sonuç: Kronik SSKR hastalarında sağlıklı bireylere kıyasla depresyon ve anksiyete skorlarının daha yüksek olduğu tespit ettik. Çalışmamızın sonuçları, psikolojik faktörlerin SSKR ile ilişkili olduğunu göstermektedir. Sağlık profesyonellerinin, uzun tedavi sürecinde ortaya çıkabilecek sorunları göz önüne alarak hasta merkezli ve etik değerlere uygun bir şekilde, yapıcı bir yaklaşımla her hasta için bireyselleştirilmiş olarak ve fiziksel sorunların yanı sıra psikososyal sorunların da yönetimini içeren uygulamalara yönelmelidir. Oftalmologlar, SSKR hastalarını tedavi ederken psikososyal destek veya müdahaleler için hastaları yönlendirmesi gerektiğini akılda tutmalıdırlar.

Anahtar Kelimeler: Santral seröz koriyoretinopati, beck depresyon ölçeği, beck anksiyete ölçeği, anksiyete duyarlılığı indeksi-3

ABSTRACT

Objective: To compare the psychological status of patients with chronic central serous chorioretinopathy (CSCR) with healthy controls using the Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), and Anxiety Sensitivity Index-3 (ASI-3).

Materials and Methods: This cross-sectional clinical study included 25 patients aged 18-60 with chronic CSCR who were followed and treated at the Retina Unit of Necmettin Erbakan University Faculty of Medicine Hospital between November 2023 and June 2024. A control group of 25 age- and sex-matched individuals undergoing routine eye check-ups was also recruited. All participants underwent a complete ophthalmological examination, including best corrected visual acuity, intraocular pressure measurement, and detailed anterior segment and fundus examination. The ASI-3, BDI, and BAI were administered.

Results: There were no statistically significant differences between the CSCR and control groups in terms of mean age and sex (p=0.336 and p=0.774, respectively). The CSCR group had significantly higher BDI and BAI scores compared to the control group (p<0.001 and p=0.013, respectively). The ASI-3 score was also significantly higher in the CSCR group (p=0.015).

Conclusion: Patients with chronic CSCR exhibited higher levels of depression and anxiety compared to healthy individuals, suggesting an association between psychological factors and CSCR. Healthcare professionals should adopt a patient-centered, ethical, and constructive approach, incorporating the management of psychosocial issues alongside physical concerns in individualized care plans for CSCR patients. Ophthalmologists should consider referring these patients for psychosocial support or interventions.

Keywords: Central serous chorioretinopathy, beck depression inventory, beck anxiety inventory, anxiety sensitivity index-3

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INTRODUCTION

Central serous chorioretinopathy (CSCR) is characterized by serous fluid accumulation between the retinal pigment epithelium and the outer segments of photoreceptors, leading to neurosensory retinal detachment. The etiology is often idiopathic. Common symptoms include blurred vision, metamorphopsia, impaired color vision, and micropsia, often with a gradual onset and progression. Bilateral involvement occurs in 10% of patients. The disease predominantly affects males between 20 and 50 years of age, with an incidence approximately six times higher in men than women. Recurrence typically occurs within the first year in 31% of CSCR patients (1).

CSCR can present in acute or chronic forms. The acute form is more common and usually self-resolves within 2-3 months. The chronic form, characterized by diffuse retinal pigment epithelial abnormalities with retinal pigment epithelium atrophy, pigment clumping, and shallow serous retinal detachment, occurs in approximately 5% of cases (2). Recent studies define fluid accumulation lasting longer than 3 months as chronic CSCR (3).

The etiology and pathophysiology of CSCR are not fully understood. Systemic hypertension, obstructive sleep apnea, endogenous or exogenous corticosteroids, pregnancy, alcohol, and tobacco use have been associated with the disease (4-7). One study reported a close association between CSCR and Type A personality traits (8). Recent studies suggest a strong link between psychological factors and CSCR etiology, highlighting the importance of stress and anxiety management in disease management (9). Psychological stress and Type A personality, risk factors for CSCR, are also risk factors for depression (10). One study demonstrated a significantly increased risk of developing depression in CSCR patients (11). This study aimed to compare the psychological status of chronic CSCR patients with healthy controls using the BDI, BAI, and ASI-3.

MATERIALS AND METHODS

This study was designed as a cross-sectional clinical study and included 25 chronic CSCR patients aged 18-60 who were being followed and treated at the Retina Unit of Necmettin Erbakan University Faculty of Medicine Hospital between November 2023 and June 2024. The control group consisted of 25 age- and sex-matched individuals who attended the outpatient clinic for routine eye check-ups. Individuals with systemic diseases such as diabetes, hypertension, cerebrovascular or cardiovascular diseases, those with a psychiatric illness or a history of using medication that could affect mental status, those with any eye disease other than CSCR, a history of intraocular surgery or trauma, alcohol or tobacco use, or a history of COVID-19 were excluded from the study.

All patients and controls underwent a complete ophthalmological examination, including best-corrected visual acuity and intraocular pressure measurement, and a detailed anterior segment and fundus examination. Following the ophthalmological examination, the Anxiety Sensitivity Index-3 (ASI-3), Beck Depression Inventory (BDI), and Beck Anxiety Inventory (BAI) tests were administered.

The study was conducted with the approval of the Necmettin Erbakan University Ethics Committee and in accordance with the principles of the Declaration of Helsinki (Ethics Committee Decision No: 2024/5051). Written informed consent was obtained from all participants.

Beck Depression Inventory (BDI)

The BDI is a widely used 21-item instrument for measuring depressive symptoms. Created by Aaron T. Beck and first published in 1961 (12), it assesses emotional, behavioral, and somatic symptoms. Symptom severity can be categorized as minimal depression (0-9), mild depression (10-16), moderate depression (17-29), and severe depression (30-63). The reliability and validity of the Turkish version were established by Hisli (1988) (13). In this study, individuals with BDI scores ≤ 9 were considered to have no depressive symptoms, while those with scores > 9 were considered to have depressive symptoms.

Beck Anxiety Inventory (BAI)

The BAI, developed by Beck et al. (14), is a 21-item scale assessing the degree of discomfort experienced during the past week for each item. Scores are interpreted as minimal/normal anxiety (0-7), mild anxiety (8-15), moderate anxiety (16-25), and severe anxiety (26-63). The validity and reliability of the Turkish version were established by Ulusoy et al. (15). In this study, individuals with BAI scores > 7 were considered to have anxiety symptoms.

Anxiety Sensitivity Index-3 (ASI-3)

The ASI-3 comprises 18 items across three subscales: physical, social, and cognitive, each containing six items. It uses a 5-point Likert scale, ranging from 0 (very little) to 4 (very much). Participants rate their agreement with each statement based on their past experiences or how they anticipate feeling in that situation if they haven't experienced it (16). The reliability and validity of the Turkish version were established by Mantar et al. (17).

Statistical Analysis

Statistical analysis was performed using IBM SPSS Statistics version 29.0 (IBM Corp, Armonk, NY, USA). Normality was assessed using the Shapiro-Wilk test for continuous variables. Continuous variables with normal and non-normal distributions were expressed as mean ± standard deviation (SD) and median [interquartile range, IQR], respectively. Categorical variables were presented as number (n) and percentage (%). Independent samples t-tests and Mann-Whitney U tests were used to compare continuous variables with normal and non-normal distributions, respectively. Pearson's chi-square test was used to compare categorical variables. A p-value < 0.05 was considered statistically significant.

RESULTS

The study included 25 chronic CSCR patients (CSCR group), 15 (60%) of whom were male and 10 (40%) female. The mean age of the CSCR group was 43.4 ± 6.3 years. The control group consisted of 25 participants, 14 (56%) male and 11 (44%) female, with a mean age of 41.8 ± 5.3 years. There was no statistically significant difference between the two groups in

Table 1. Demographical characteristics of the participants in the CSCR and control groups.

	CSCR Group (n=25)	Control Group (n=25)	p value
Age, years, mean±SD	43.4±6.3	41.8±5.3	0.336*
Gender			
Male (n, %)	15, 60.0%	14, 56.0%	0.774**
Female (n, %)	10, 40.0%	11, 44.0%	

* Tested using Independent samples – t test ** Tested using Pearson's Chi – squared test CSCR: Central Serous Chorioretinopathy

Table 2. Comparison of the ASI-3, BAI, BDI scores between CSCR and control groups.

	CSCR Group (n=25)	Control Group (n=25)	p value
ASI-3, median [IQR]	22.0 [26.0]	12.0 [7.5]	0.015*
BAI, median [IQR]	9.0 [12.5]	5.0 [3.0]	0.013*
BDI, median [IQR]	7.0 [9.0]	4.0 [4.5]	<0.001*

* Tested using Mann-Whitney test **Bold:** statistically significant results **ASI-3:** Anxiety Sensitivity Index-3 **BAI:** Beck Anxiety Inventory **BDI:** Beck Depression Inventory

terms of mean age and sex (p=0.336 and p=0.774, respectively) (Table 1). The median disease duration in the CSCR group was 4.0 [4.0] years.

Based on the BDI scores, depression was detected in 11 (44%) patients in the CSCR group, while 14 (56%) had no depression. In the control group, 23 (92%) participants had no depression, and 2 (8%) had depression. The median BDI score was 7.0 [9.0] in the CSCR group and 4.0 [4.5] in the control group. The BDI score was statistically significantly higher in the CSCR group compared to the control group (p<0.001).

Evaluation of the BAI revealed anxiety in 13 (52%) patients in the CSCR group and no anxiety in 12 (48%). In the control group, 22 (88%) had no anxiety, while 3 (12%) had anxiety. The median BAI score was 9.0 [12.5] in the CSCR group and 5.0 [3.0] in the control group. The BAI score was statistically significantly higher in the CSCR group compared to the control group (p=0.013).

The median ASI-3 score was 22.0 [26.0] in the CSCR group and 12.0 [7.5] in the control group. The ASI-3 score was statistically significantly higher in the CSCR group compared to the control group (p=0.015) (Table 2).

DISCUSSION

Our study demonstrates that patients with CSCR exhibit higher levels of anxiety and depressive symptoms compared to healthy controls. These findings support the hypothesis that CSCR patients may experience increased psychological distress. This research contributes significantly to the literature by investigating the link between CSCR and psychological functioning, highlighting that chronic CSCR not only affects vision but also impacts quality of life through anxiety and depressive symptoms. This study may also enhance the understanding of the psychological processes involved in CSCR.

CSCR, the fourth most common maculopathy, is characterized by choroidal hyperpermeability and subsequent subretinal fluid accumulation (18). This condition can lead to temporary or irreversible vision loss due to neuronal tissue atrophy, in addition to symptoms like metamorphopsia, micropsia, hypermetropia, and dyschromatopsia. Although the exact etiology remains unknown, CSCR is considered a multifactorial disease (19). The most established and strongest risk factors are exogenous corticosteroid use and elevated endogenous cortisol levels (20,21). Other risk factors include sympathetic-parasympathetic imbalance, sleep disorders, uncontrolled hypertension, pregnancy, alcohol, and tobacco use (22).

The psychological characteristics of CSCR patients have become a frequent research topic in recent years. Yannuzzi, in 1987, hypothesized that individuals with "Type A personality" are at higher risk of developing CSCR (8). Numerous studies have evaluated psychopathological symptoms in CSCR patients. Conrad et al. found significantly higher emotional stress levels, measured by the Global Severity Index, in CSCR patients compared to healthy controls (23). Another study by Sahin et al. demonstrated more pronounced psychological symptoms and poorer quality of life in CSCR patients compared to healthy controls (24). Siguan and Aguilar found a higher likelihood of schizophrenic (84%), hysterical (83%), depressive (75%), psychopathic deviant (67%), and hypochondriacal (58%) tendencies in CSCR patients (25). Piskunowicz et al. observed higher insecurity, frustration, and anxiety levels in CSCR patients compared to healthy controls (26). These findings corroborate the results of our study.

However, a study by Kim YK et al. comparing acute and chronic CSCR patients found that anxiety, depression, and stress are associated with the active phase of CSCR but not the inactive phase. Their analysis linked acute CSCR with depression and chronic CSCR with stress (27). Contrary to this hypothesis, Tittl et al. reported a higher likelihood of anxiolytic

or antidepressant use in chronic CSCR patients compared to controls, but not in acute CSCR patients (28). Our study, unlike Kim YK et al.'s, found significantly higher depression scores in chronic CSCR patients, aligning with Tittl et al.'s hypothesis.

This study uniquely assesses depression and anxiety in chronic CSCR patients using scales not previously employed in this patient group. However, it has limitations, including a small sample size, the exclusion of acute CSCR patients due to their scarcity, its single-center design, and the lack of socio-economic and demographic data. Further research with larger sample sizes, including acute CSCR patients, is needed.

In conclusion, we found higher depression and anxiety scores in chronic CSCR patients compared to healthy controls. Like most previous studies, our findings suggest a clear association between psychological factors and CSCR. Healthcare professionals should incorporate psychosocial management alongside physical care in individualized, patient-centered, ethical, and constructive care plans for CSCR patients, considering the challenges that may arise during the long treatment process (29). Ophthalmologists should be mindful of the need for referrals to psychosocial support or interventions for CSCR patients.

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