ORIGINAL ARTICLE

Özgün Araştırma

Correspondence address
Yazışma adresi
Oznur KUTLUK
Department of Rheumatology,
Antalya Training and Research Hospital,
Antalya, Türkiye

oznurkutluk@gmail.com

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Oznur KUTLUK
Department of Rheumatology,
Antalya Training and Research Hospital,
Antalya, Türkiye

Oyku TOMAY AKSOY
Clinic of Physical Medicine and Rehabilitation,
Korkuteli State Hospital,
Antalya, Türkiye

Characteristics of Patients Referred to the Rheumatology Clinic with a Diagnosis of Uveitis: A Retrospective Study

Üveit Tanısı ile Romatoloji Kliniğine Yönlendirilen Hastaların Özellikleri: Retrospektif Bir Çalışma

ABSTRACT

Objective:
The aim of this study is to share the evaluation results of patients diagnosed with uveitis by ophthalmological examinations and referred to the rheumatology clinic.

Material and Methods:
Data of patients diagnosed with uveitis by ophthalmological examinations and referred to the rheumatology clinic were retrospectively reviewed. Patients with previously known rheumatological diseases were not included.

Results:
Data of a total of 62 patients meeting the inclusion criteria were evaluated. Complaints related to rheumatic diseases were queried in patients referred with a diagnosis of uveitis; 26 (41.9%) had inflammatory low back pain, and 7 (11.3%) had recurrent oral aphthous ulcers. In 25 patients (40.3%), there were no rheumatic complaints/symptoms. Rheumatic diseases were detected in 32 (51.6%) of the 62 patients referred with a diagnosis of uveitis. Distribution of rheumatic disease diagnoses: Axial spondyloarthritis 23, [Ankylosing spondylitis 18 (29.0%), non-radiographic axial spondyloarthritis 5 (8.1%)], Behçet's disease 4 (6.5%), psoriatic arthritis 2 (3.2%), Sjogrens syndrome 1 (1.6%), inflammatory bowel disease 1 (1.6%), Familial Mediterranean Fever 1 (1.6%).

Conclusions:
Rheumatic diseases, particularly spondyloarthritis, may initially manifest with eye involvement. Referring uveitis-diagnosed patients to rheumatology clinics for further investigation is vital for early detection and timely treatment to prevent permanent damage and potential eye complications. Providing detailed information on uveitis characteristics during referrals aids rheumatologists in making an accurate diagnosis.

Key Words:
Rheumatic disease, Spondyloarthritis, Uveitis

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ÖZ

Amaç:

Bu çalışmanın amacı; göz hastalıkları tarafından üveit tanısı konularak romatoloji polikliniğine yönlendirilen hastaların değerlendirme sonuçlarını paylaşmaktır.

Gereç ve Yöntemler:

Göz hastalıkları tarafından üveit tanısı konulan ve romatoloji polikliniğine yönlendirilen hastaların dosyaları retrospektif olarak tarandı. Daha önceden bilinen romatolojik hastalığı olan hastalar çalışmaya alınmadı.

Bulgular:

Çalışmaya alınma kriterlerini karşılayan toplam 62 hastanın verileri değerlendirildi. Üveit tanısı ile yönlendirilen hastaların romatolojik hastalık açısından şikayetleri sorgulandı; 26 (%4,9) inflamatuvar bel ağrısı, 7 (%11,3) tekrarlayan oral aft saptandı. Yirmi beş (%40,3) hastada ise hiç bir romatolojik şikayet/semptom yoktu Polikliniğimize üveit tanısı ile yönlendirilen 62 hastanın 32'sinde (%51,6) romatolojik hastalık saptandı. Romatolojik hastalık tanı dağılımı: Aksiyel spondiloartrit 23, [Ankilozan spondilit 18 (%29,0), non-radyolojik aksiyel spondiloartrit 5 (%8,1)], Behçet Hastalığı 4 (%6,5), psoriyatik artrit 2 (%3,2), bağ doku hastalığı 1 (%1,6), inflamatuvar barsak hastalığı 1 (%1,6), ailesel akdeniz ateşi 1 (%1,6) idi.

Sonuç:

Spondiloartritler başta olmak romatolojik hastalıkların ilk belirtisi göz tutulumu olabilir. Üveit tanısı konulan hastalar şüpheli durumlarda altta yatan romatolojik hastalık araştırılması açısından romatoloji polikliniklerine yönlendirilmelidir. Romatolojik hastalığın erken tanısı; hem hastalığın tedavi edilerek kalıcı hasarın önlenmesi hem de oluşabilecek oftalmolojik komplikasyonların önüne geçilmesi açısından önemlidir. Bu nedenle üveit tanılı hastalar yönlendirilirken üveite dair tutulum özelliklerinin belirtilmesi romatoloji hekimine tanı koyma konusunda yol gösterici olacaktır.

Anahtar Kelimeler:

Romatolojik hastalık, Spondiloartrit, Üveit

INTRODUCTION

Uveitis, inflammation of the uvea, the middle segment of the eye is characterized by the involvement of specific anatomical components. The frontal section of the uvea comprises the iris and ciliary body, while the rear segment is recognized as the choroid. Uveitis may manifest as acute (lasting ≤3 months), chronic (lasting >3 months), or recurrent (1).

Anatomical classification classifies uveitis into four distinct categories: anterior uveitis (AU), intermediate uveitis (IU), posterior uveitis (PU), and panuveitis (PanU). Among these, AU stands out as the most prevalent, succeeded by PanU, PU, and IU (2).

Uveitis is characterized by inflammation of the uvea, which constitutes the middle portion of the eye. The anterior part of the uvea is composed of the iris and ciliary body, while the posterior Uveitis often develops in connection with other systemic medical conditions, particularly infections and inflammatory diseases; however, a variable percentage of cases also presents as idiopathic. Uveitis may manifest as a symptom of various systemic inflammatory conditions, such as spondyloarthritis (SpA), sarcoidosis and Behçet disease as well as other systemic rheumatic diseases (3).

The occurrence rate of SpA in individuals with AU is approximately 50%, and AU has been documented in at least 30% of SpA cases. Among the SpA spectrum, the highest incidence of AU is noted in patients with ankylosing spondylitis (AS), reaching 33.4%. Conversely, the estimated occurrence in psoriatic arthritis (PsA) and inflammatory bowel disease-associated SpA varies from 2% to 25% and 25%, respectively. AU may precede the clinical manifestations of SpA, manifest at the time of diagnosis, or potentially complicate the clinical course of SpA. However, the use of anti-tumor necrosis factor-α agents in SpA treatment has demonstrated a reduction in both the incidence of AU in SpA and AU flare-ups (4).

In this study, we presented the rheumatological evaluation results of patients diagnosed with uveitis by ophthalmology and referred to our clinic. The aim was to highlight rheumatic diseases associated with uveitis and provide a rheumatological perspective on uveitis.

MATERIAL and METHODS

The data of patients diagnosed with uveitis by ophthalmological assessments and subsequently referred to the rheumatology clinic were retrospectively reviewed. Patients with pre-existing rheumatological conditions were excluded from the study. Patient demographics, including age and gender, as well as specific details related to uveitis diagnosis [type of involvement, number of affected eyes (unilateral, bilateral), and frequency of attacks], duration of referral, and existing rheumatological complaints at the time of referral (inflammatory back pain, peripheral joint

symptoms, history of recurrent oral aphthous ulcers, etc.), were documented. Laboratory results [sedimentation rate, C-reactive protein (CRP), HLA-B27] and imaging findings [Magnetic Resonance Imaging (MRI) and plain radiography] were recorded.

Data Evaluation and Analysis

The SAS 9.4 program was employed for the statistical analysis of the data obtained in the study. Descriptive statistics, including mean, standard deviation, median, minimum, and maximum, were computed for quantifiable variables determined through measurement in the research. For qualitative variables, descriptive statistics were presented in terms of counts and percentages.

Prior to analysis, the normal distribution suitability of the data was assessed using the Shapiro-Wilk test and examining skewness coefficients. The results of the tests, along with skewness coefficients falling within the range of +2 and -2 for all variables, indicated that the data exhibited a normal distribution. Consequently, parametric tests were employed for the statistical analysis (George and Mallery, 2011).

Binary comparisons between two categorical variables were conducted using an independent samples t-test. Chi-square analysis was employed to elucidate the relationship between qualitative variables. A significance level of 0.05 was adopted throughout the study.

Ethical Approval

This retrospective study was approved by the Clinical Research Ethics Committee of Antalya Training and Research Hospital (Approval Number: Decision No: 11/1, Approval Date: 08/24/2023). The study is in full compliance with the relevant ethical guidelines. In this retrospective research study, ethical approval was obtained from the Clinical Research Ethics Committee of Antalya Training and Research Hospital and due to the retrospective nature of the study design, informed consent from participants was deemed unnecessary. The Clinical Research Ethics Committee of Antalya Training and Research Hospital reviewed and approved the study protocol, recognizing that the research involves a retrospective analysis of existing data, and waived the requirement for individual informed consent.

RESULTS

Characteristics of patients referred with a diagnosis of uveitis to the rheumatology clinic

There were a total of 98 patients presenting with a diagnosis of uveitis to the rheumatology clinic. 36 of them were excluded from the study as they had previously known rheumatological diseases. A total of 62 patients were included in the study. Of these patients, 38 (61.3%) were female, and 24 (38.7%) were male, with an average age of 43.5 years. The mean age was the same for both genders (43.5). Among the 62 patients, 55 (88.7%) had unilateral eye involvement, while 7 (11.3%) had involvement in both eyes.

For 42 patients (67.7%) out of the 62, the type of uveitis was unspecified, with the majority of the remaining patients having anterior uveitis (n:14, 22.6%). In 47 (75.8%) of the patients, the referral to the rheumatology clinic occurred within the first three months after the onset of the uveitis attack, while 15 patients requested consultation three months or more later. Nineteen patients (30.6%) had a history of multiple (recurrent) uveitis, while the remaining 43 (69.4%) experienced their first uveitis attack.

Regarding the symptoms that may be related to rheumatic diseases in patients referred with a diagnosis of uveitis, 26 (41.9%) patients had inflammatory low back pain. Seven (11.3%) patients had a complaint of recurrent oral aphthous ulcers, all of whom were female. 25 patients (40.3%) had no rheumatic symptoms. All 62 patients had an anteroposterior pelvis X-ray, with radiographic sacroiliitis detected in 18 (29%) of them. Except for one patient, all of these had a history of inflammatory low back pain. Twenty-five patients had sacroiliac joint MRI, with edema present in 16 of them, while the evaluation was normal in 9 patients. HLA-B27 testing was performed in all 62 patients. 15 (24.2%) tested positive for HLA-B27 (12 of them had rheumatological disease), while 47 (75.8%) tested negative (20 of these had rheumatological disease). The average CRP value was 7 mg/L, and the sedimentation rate was 12.5 mm/hour.

Among the 62 patients who presented at our clinic, diagnosed with uveitis, 32 (51.6%) were found to have rheumatological diseases. Table I displays the features of the 62 patients who were enrolled in the study.

Characteristics of Patients Diagnosed with Rheumatic Diseases

Out of the 32 patients identified with rheumatic conditions, 21 were women, and 11 were men. The rate of detecting rheumatic diseases in female patients referred with uveitis was 55.3%, while in males, this rate was 45.8%. Although the rate was higher in females, it was not statistically significant. Patient characteristics by gender are shown in Table II. Among the 32 patients diagnosed with rheumatic diseases, 30 (93.8%) had unilateral eye involvement, 11 (34.4%) had recurrent uveitis, and 9 had anterior uveitis. The CRP and sedimentation values of patients with diagnosed rheumatic diseases were higher than those without rheumatic diseases, but it was not statistically significant. Twelve out of 32 patients (37.5%) exhibited a positive HLA-B27 result. Distribution of rheumatic disease diagnoses was as follows: Axial SpA 23 (37.1%) [Ankylosing spondylitis (AS) 18 (29.0%), non-radiographic axial spondyloarthritis (nr-axSpA) 5 (8.1%)], Behçet's disease 4 (6.5%), Psoriatic arthritis (PsA) 2 (3.2%), Sjogrens syndrome 1 (1.6%), IBD-associated arthritis 1 (1.6%), Familial Mediterranean Fever (FMF) 1 (1.6%). See Table I, III.

Table I. The Characteristics of Patients Referred with a Diagnosis of Uveitis

	Total (N=62)
Gender , n (%)	
Female	38 (61.3%)
Male	24 (38.7%)
Age	
Mean (SD)	43.5 (12.51)
Median (Range)	41.0 (19.0, 77.0)
Time, n (%)	
Acute (≤3 months)	47 (75.8%)
Chronic (>3 months)	15 (24.2%)
Oculer ınvolvement , n (%)	
Unilateral	55 (88.7%)
Bilateral	7 (11.3%)
Attacks, n (%)	
First	43 (69.4%)
Recurrent	19 (30.6%)
Uveitis type, n (%)	
Unspecified	42 (67.7%)
Anterior	14 (22.6%)
Posterior	1 (1.6%)
Panuveitis	1 (1.6%)
Granulomatous	3 (4.8%)
Intermediate	1 (1.6%)
RS, n (%)	
NRS	25 (40.3%)
Inflammatory back pain	26 (41.9%)
Recurrent oral aphthous ulcers.	7 (11.3%)
Peripheral joint pain	2 (3.2%)
Dry eye	1 (1.6%)
Abdominal pain	1 (1.6%)
MRI, n (%)	
Normal	9 (14.5%)
Sacroiliitis	16 (25.8%)
Radiography, n (%)	
Normal	44 (71.0%)
Sacroiliitis	18 (29.0%)
HLA-B27, n (%)	
Negative	47 (75.8%)
Positive	15 (24.2%)
Diagnosis , n (%)	
Nr-axSpA	5 (8.1%)
AS	18 (29.0%)
PsA	2 (3.2%)
BD	4 (6.5%)
SS	1 (1.6%)
IBD	1 (1.6%)
FMF	1 (1.6%)
Non-IRD	30 (48.4%)
Diagnosis(%)	
IRD	32 (51.6%)
Non-IRD	30 (48.4%)
CRP	
Mean (SD)	7.0 (6.50)
Median (Range)	4.0 (1.0, 30.0)
Sedimentation	
Mean (SD)	12.5 (7.97)
Median (Range)	11.5 (2.0, 44.0)

Age: year AS:Ankylosing spondylitis BD: Behçet's disease
CRP: C-reactive protein (mg/L)SS: Sjogrens syndrome
FMF: Familial Mediterranean Fever IBP: Inflammatory back pain
MRI: Magnetic Resonance Imaging. Nr-axSpA: non-radiographic axial spondyloarthritis NRS: No rheumatologic symptoms
PsA: Psoriatic arthritis

Table II. The Characteristics of Patients with Uveitis According to Gender

	Gender		
	Female (N=38)	Male (N=24)	P-value
Uveitis type, n (%)			0.2518[1]
Unspecified	29 (76.3%)	13 (54.2%)	
Anterior	7 (18.4%)	7 (29.2%)	
Posterior	0 (0.0%)	1 (4.2%)	
Panuveitis	0 (0.0%)	1 (4.2%)	
Granulomatous	2 (5.3%)	1 (4.2%)	
Intermediate	0 (0.0%)	1 (4.2%)	
RS, n (%)			0.2326[1]
NRS	13 (34.2%)	12 (50.0%)	
Inflamatour back pain	15 (39.5%)	11 (45.8%)	
Recurrent oral aphthous ulcers.	7 (18.4%)	0 (0.0%)	
Peripheral joint pain	1 (2.6%)	1 (4.2%)	
Dry eye	1 (2.6%)	0 (0.0%)	
Abdominal pain	1 (2.6%)	0 (0.0%)	
MRI, n (%)			0.9294[1]
Normal	5 (13.2%)	4 (16.7%)	
Sacroiliitis	10 (26.3%)	6 (25.0%)	
Radiography, n (%)			0.2431[1]
Normal	29 (76.3%)	15 (62.5%)	
Sacroiliitis	9 (23.7%)	9 (37.5%)	
HLA-B27, n (%)			0.4674[1]
Negative	30 (78.9%)	17 (70.8%)	
Positive	8 (21.1%)	7 (29.2%)	
Rheumatologic diagnosis, n (%)			0.4823[1]
Nr-axSpA	4 (10.5%)	1 (4.2%)	
AS	9 (23.7%)	9 (37.5%)	
PsA	1 (2.6%)	1 (4.2%)	
BD	4 (10.5%)	0 (0.0%)	
SS	1 (2.6%)	0 (0.0%)	
IBD	1 (2.6%)	0 (0.0%)	
FMF	1 (2.6%)	0 (0.0%)	
Non-RD	17 (44.7%)	13 (54.2%)	
Diagnosis, n (%)			0.4692[1]
RD	21 (55.3%)	11 (45.8%)	
Non-RD	17 (44.7%)	13 (54.2%)	

	Gender		
	Female (N=38)	Male (N=24)	P-value
Age			0.7339[2]
Mean (SD)	43.4 (14.11)	43.5 (9.74)	
Median (Range)	40.5 (19.0, 77.0)	41.5 (31.0, 67.0)	

[1]Chi-Square p-value; [2]Kruskal-Wallis p-value;

AS:Ankylosing spondylitis BD: Behçet's disease CRP: C-reactive protein SS: Sjogrens syndrome FMF: Familial Mediterranean Fever IBP: Inflammatory back pain MRI: Magnetic Resonance Imaging. Nr-axSpA: non-radiographic axial spondyloarthritis NRS: No rheumatologic symptoms PsA: Psoriatic arthritis
RS: Rheumatologic symptoms

Diagnosis of Behçet's disease was established in 4 patients, all of whom were female. All of them presented with recurrent oral aphthous ulcers. Two of them tested positive for HLA-B51, while the remaining two tested negative. The uveitis involvement type was unknown for all four of these patients.

Characteristics of Axial SpA Patients

A total of 23 individuals were diagnosed with Axial SpA, with 18 having Ankylosing Spondylitis (AS) and 5 having non-radiographic axial spondyloarthritis (nr-axSpA). Among nr-axSpA patients, 4 were female and 1 was male, while the gender distribution was equal among those diagnosed with AS (9 females, 9 males). All patients diagnosed with Axial SpA (n:23) had single-eye involvement, and 9 of them (39%) had a history of recurrent uveitis (6 AS, 3 nr-axSpA). Out of the 23 patients, 22 had a history of inflammatory back pain; however, one patient diagnosed with AS had no complaints. Among the 23 patients diagnosed with Axial SpA, 18 had sacroiliitis on AP pelvis X-ray. This was a new diagnosis in 18 individuals who had no previous disease diagnosis. HLA-B27 positivity in nr-axSpA-diagnosed patients was 1 (20%), whereas in AS-diagnosed patients, HLA-B27 positivity was 11 (61.1%). CRP values in nr-axSpA-diagnosed patients were higher than those in AS-diagnosed patients but were not statistically significant (Table IV).

Table III. Characteristics Patients Diagnosed with Rheumatic Diseases

	Diagnosis		
	RD (N=32)	Non-RD (N=30)	P-value
Gender, n (%)			0.4692[1]
Female	21 (65.6%)	17 (56.7%)	
Male	11 (34.4%)	13 (43.3%)	
Oculer ınvolvement , n (%)			0.1953[1]
Unilateral	30 (93.8%)	25 (83.3%)	
Bilateral	2 (6.3%)	5 (16.7%)	
Rheumatologic diseases, n (%)			0.4783[1]
Unspecified	22 (68.8%)	20 (66.7%)	
Anterior	9 (28.1%)	5 (16.7%)	
Posterior	0 (0.0%)	1 (3.3%)	
Panuveitis	0 (0.0%)	1 (3.3%)	
Granulomatous	1 (3.1%)	2 (6.7%)	
Intermediate	0 (0.0%)	1 (3.3%)	
Time , n (%)			0.1803[1]
Acute (≤3 months)	22 (68.8%)	25 (83.3%)	
Chronic (>3 months)	10 (31.3%)	5 (16.7%)	
Attacks, n (%)			0.5106[1]
First	21 (65.6%)	22 (73.3%)	
Recurrent	11 (34.4%)	8 (26.7%)	
RS n (%)			<.0001[1]
NRS	2 (6.3%)	23 (76.7%)	
Inflammatory back pain	22 (68.8%)	4 (13.3%)	
Recurrent oral aphthous ulcers.	5 (15.6%)	2 (6.7%)	
Peripheral joint pain	1 (3.1%)	1 (3.3%)	
Dry eye	1 (3.1%)	0 (0.0%)	
Abdominal pain	1 (3.1%)	0 (0.0%)	
HLA-B27, n (%)			0.0115[1]
Negative	20 (62.5%)	27 (90.0%)	
Positive	12 (37.5%)	3 (10.0%)	
Age			0.0228[2]
Mean (SD)	39.7 (10.64)	47.5 (13.24)	
Median (Range)	40.5 (19.0, 62.0)	48.0 (30.0, 77.0)	
CRP			0.0815[2]
Mean (SD)	8.8 (7.40)	5.1 (4.79)	
Median (Range)	8.5 (1.0, 30.0)	3.0 (1.0, 19.0)	
Sedimentation			0.4758[2]
Mean (SD)	12.9 (7.77)	12.2 (8.29)	
Median (Range)	12.0 (2.0, 34.0)	9.5 (2.0, 44.0)	

[1]Chi-Square p-value; [2]Kruskal-Wallis p-value;

CRP: C-reactive protein MRI: Magnetic Resonance Imaging NRS: No rheumatologic symptoms. RS: Rheumatologic symptoms

Table IV. Characteristics of Axial SpA Patients

	Diagnosis		
	Nr-axSpA (N=5)	AS (N=18)	P-value
Gender , n (%)			0.2313[1]
Female	4 (80.0%)	9 (50.0%)	
Male	1 (20.0%)	9 (50.0%)	
Oculer ınvolvement, n (%)			
Unilateral	5 (100.0%)	18 (100.0%)	
Uveitis type, n (%)			0.4327[1]
Unspecified	4 (80.0%)	11 (61.1%)	
Anterior	1 (20.0%)	7 (38.9%)	
RS, n (%)			0.5900[1]
NRS	0 (0.0%)	1 (5.6%)	
Inflammatory back pain	5 (100.0%)	17 (94.4%)	
MRI, n (%)			0.1820[1]
Normal	0 (0.0%)	2 (11.1%)	
Sacroiliitis	5 (100.0%)	10 (55.6%)	
Radiography, n (%)			<.0001[1]
Normal	5 (100.0%)	0 (0.0%)	
Sacroiliitis	0 (0.0%)	18 (100.0%)	
HLA-B27, n (%)			0.1035[1]
Negative	4 (80.0%)	7 (38.9%)	
Positive	1 (20.0%)	11 (61.1%)	
Age			0.3704[2]
Mean (SD)	33.2 (14.32)	40.1 (9.27)	
Median (Range)	31.0 (19.0, 49.0)	40.5 (28.0, 57.0)	
CRP			0.1668[2]
Mean (SD)	15.4 (11.50)	8.1 (6.48)	
Median (Range)	10.0 (3.0, 30.0)	7.5 (1.0, 24.0)	
Sedimentation			0.6260[2]
Mean (SD)	13.4 (7.20)	11.8 (6.90)	
Median (Range)	12.0 (4.0, 22.0)	11.5 (2.0, 28.0)	

[1]Chi-Square p-value; [2]Kruskal-Wallis p-value;

AS:Ankylosing spondylitis CRP: C-reactive protein MRI: Magnetic Resonance Imaging. Nr-axSpA: non-radiographic axial spondyloarthritis RS: Rheumatologic symptoms

DISCUSSION

In healthy conditions, the eye possesses a unique immunity against inflammation. Despite the robust blood-tissue barriers provided through endothelial regulation, immune cells from both the innate and adaptive systems can breach this barrier and reach the intraocular microenvironment in systemic inflammatory rheumatic diseases. The dysregulated immune response and damaged endothelium eventually become a gateway for cytokines and inflammatory cells, leading to tissue damage through different mechanisms (5, 6).

Various causes, such as infectious, immune-mediated, and drug-related conditions, have been identifies as causes of uveitis, yet the majority of cases remain idiopathic (2). According to findings from retrospective studies, inflammatory rheumatic diseases account for approximately 30% of uveitis cases. Specifically, SpA, Behçet's disease, and sarcoidosis are prominent among these diseases (2-7). In our study, rheumatic disease diagnoses were established in 32 (51.6%) of the 62 patients diagnosed with uveitis, including axial SpA (n:23), Behçet's disease (n:4), Psoriatic arthritis (PsA) (n:2), inflammatory bowel disease (IBD) (n:1), Sjogrens syndrome (n:1), and Familial Mediterranean Fever (FMF) (n:1). The relationship between FMF and uveitis is not as clear as in other rheumatic diseases. FMF is an autoinflammatory disease characterized by fever and serositis attacks, and it has been associated

with other rheumatic diseases such as rheumatoid arthritis (RA), SpA, and Behçet's disease. In a study examining the relationship between uveitis and FMF, 12 idiopathic uveitis patients were investigated for the most common MEFV mutations, and no genetic mutations were detected in any of the patients (8).

The study concluded that FMF is not an underlying cause of idiopathic uveitis. In our study, the patient was diagnosed according to the Tel HaShomer criteria due to clinical symptoms, and no MEFV gene mutations were detected (9). Obtaining clear insights into the correlation between these two diseases necessitates additional observational studies with a greater patient cohort.
SpA group of diseases includes Axial Spondyloarthritis (AS, nr-axSpA), Psoriatic Arthritis (PsA), Inflammatory Bowel Disease-associated arthritis (IBD), and Reactive Arthritis (ReA). AS typically presents with radiographic sacroiliitis on plain X-rays, while nr-axSpA lacks visible sacroiliitis changes on X-rays but may show them on MRI (10, 11). Several studies indicate that approximately 5 to 10 percent of patients with nr-axSpA will develop radiographic sacroiliitis indicative of AS within around two years, and about 20 percent will do so after approximately five years of follow-up (12).

In diseases within the Spondyloarthritis group, the most common extra-articular manifestation is anterior uveitis. Although inflammation and scleritis in the posterior segment occur less frequently, a study published in 2007 mentioned a prevalence of 32.7% for anterior uveitis in spondyloarthritis, with 87.3% of cases being unilateral, and approximately 50% being recurrent anterior uveitis (13). In our study, since the majority of patients referred with a diagnosis of uveitis did not have information about the specific type of uveitis, no comments could be made in this regard. However, in all diagnosed axial SpA patients, unilateral eye involvement was present.
Uveitis manifests with different rates depending on the subtype of SpA. According to ophthalmological assessments, the incidence of uveitis is 33% in AS, 6-9% in PsA, 25% in ReA, and 2-5% in IBD. The correlation between PsA and uveitis demonstrates a more robust association compared to the link between uveitis and psoriasis alone (14).

In Axial SpA, acute recurrent unilateral anterior uveitis is common, while uveitis associated with PsA and IBD within the SpA group can have a more insidious onset, affecting both eyes and potentially involving the posterior segments of the eyes. In our study, both Axial SpA patients (n:23) and PsA patients (n:2) had unilateral uveitis, with more than one attack in 9 Axial SpA patients, while the remaining Axial SpA and PsA patients (n:16) experienced their first uveitis attack. In one patient referred due to granulomatous uveitis, IBD (Crohn's disease) was diagnosed. Among the 14 patients referred to our clinic for anterior uveitis, rheumatic diseases were detected in 9 (64%) of them, with 8 of them having Axial SpA.

The type of uveitis and its relationship to rheumatic disease could not be commented on for other patients diagnosed with rheumatic diseases since the type of uveitis was unknown for them.

Behçet's disease, classified as a systemic vasculitis, is a multisystem autoimmune disorder. Behçet's disease typically initiates with involvement of the anterior and posterior segments of the eye, leading to panuveitis in the majority of cases. Progressive ischemic damage to the retina, following recurrent attacks of intraocular inflammation, results in permanent visual loss (3). In our study, Behçet's disease was diagnosed in four individuals, all of whom had a history of recurrent oral aphthous ulcers. All patients were female, and two of them presented with bilateral uveitis. Recurrent uveitis was observed in one patient, while it was the initial uveitis attack for the others. In patients diagnosed with Behçet's disease, no specific conclusions could be drawn due to the unknown type of uveitis.

As observed in the shared literature, uveitis developed due to systemic inflammatory rheumatic diseases demonstrates variability in terms of the anatomical involvement of uveitis (anterior/posterior, etc.), whether it is unilateral or bilateral, and the frequency of attacks. These variations can serve as indicative factors in diagnosing the underlying rheumatic disease. Out of the 62 patients referred to our clinic for uveitis, the uveitis type was unspecified in 42 cases, accounting for 67.7% of the patients. Consequently, the relationship between the diagnosed diseases and the type of uveitis could not be adequately investigated. We believe that highlighting the ocular characteristics of patients diagnosed with uveitis and referring them to the rheumatology clinic, where appropriate, could significantly contribute to the rheumatologist's examination, diagnosis, and treatment processes.

During hospital admissions, anterior uveitis is the most frequently observed type, constituting approximately 60% of all uveitis presentations (15). As observed in the shared literature, uveitis developed due to systemic inflammatory rheumatic diseases demonstrates variability in terms of the anatomical involvement of uveitis (anterior/posterior, etc.), whether it is unilateral or bilateral, and the frequency of attacks. These variations can serve as indicative factors in diagnosing the underlying rheumatic disease. Out of the 62 patients referred to our clinic for uveitis, the uveitis type was unspecified in 42 cases, accounting for 67.7% of the patients. Consequently, the relationship between the diagnosed diseases and the type of uveitis could not be adequately investigated. We believe that highlighting the ocular characteristics of patients diagnosed with uveitis and referring them to the rheumatology clinic, where appropriate, could significantly contribute to the rheumatologist's examination, diagnosis, and treatment processes.
During hospital admissions, anterior uveitis is the most frequently observed type, constituting approximate-

ly 60% of all uveitis presentations (15). As previously mentioned, anterior uveitis is the most common extra-articular involvement in the SpA group of diseases. In the DUET investigation, a diagnostic protocol was employed for individuals with anterior uveitis, taking into account the duration of inflammatory back pain or peripheral arthritis, along with their HLA-B27 status. This systematic approach revealed previously undetected cases of SpA in 40% of individuals seeking care at an ophthalmic emergency department for anterior uveitis. The protocol exhibited notable sensitivity and specificity, boasting a positive predictive value of 97.5% (16)., anterior uveitis is the most common extra-articular involvement in the SpA group of diseases. In the DUET investigation, a diagnostic protocol was employed for individuals with anterior uveitis, taking into account the duration of inflammatory back pain or peripheral arthritis, along with their HLA-B27 status. This systematic approach revealed previously undetected cases of SpA in 40% of individuals seeking care at an ophthalmic emergency department for anterior uveitis. The protocol exhibited notable sensitivity and specificity, boasting a positive predictive value of 97.5% (16).

In our study, among 62 patients referred with a diagnosis of uveitis and no previously known rheumatologic disease, SpA was diagnosed in 25 patients (40.3%). Although the uveitis type of the referred patients was unknown, our diagnostic rate is similar to the ratio reported in the reference study (16). Considering the absence of radiological sacroiliitis in nr-axSpA and the potential for transformation into AS with permanent radiological damage uveitis has proven valuable in the early diagnosis of these patients (10-12). On the other hand, the diagnosis of SpA is typically delayed. An average diagnostic delay of 8–11 years has been reported by studies on ankylosing spondylitis (AS), a prototype of SpA. Inflammatory back pain, due to its subtle clinical presentation and confusion with mechanical back pain, often results in delayed hospital visits and can be overlooked by both patients and physicians. In our study, 17 out of 25 patients (68%) diagnosed with SpA visited the rheumatology clinic within the first three months following an episode of uveitis. This indicates that uveitis, an extra-articular manifestation, is an important factor in the earlier diagnosis of SpA (17). Among the diagnosed SpA patients, 22 had inflammatory back pain, and 1 had peripheral joint pain. HLA-B27 positivity was observed in 12 of the diagnosed SpA patients (48%). In cases of acute anterior uveitis, evaluating for inflammatory back pain, pain/swelling in peripheral joints, and HLA-B27 positivity appears to be a useful algorithm for assessing underlying SpA in patients whose diagnosis has not yet been established.

CONCLUSION

Anterior uveitis represents a prevalent extra-articular manifestation within the spectrum of SpA-related diseases. As demonstrated in our study, patients in this group may present to the hospital with uveitis as their initial symptom. It is crucial, especially for patients diagnosed with anterior uveitis, to inquire about inflammatory back pain and complaints in peripheral joints, as this can be indicative of underlying SpA group diseases. Uveitis can also occur in Behçet's disease, IBD (Inflammatory Bowel Disease), sarcoidosis, and connective tissue diseases.

Recommendations:
Consultations containing detailed examination findings related to ocular involvement in suspected patients serve as important clues for rheumatologists in establishing a diagnosis. Diagnosing and treating the underlying rheumatologic disease will not only prevent the progression and permanent damage of rheumatic diseases but also prevent ocular complications by preventing uveitis attacks.

Ethical Approval:
This retrospective study was approved by the Clinical Research Ethics Committee of Antalya Training and Research Hospital (Approval Number: Decision No: 11/1, Approval Date: 08/24/2023). The study is in full compliance with the relevant ethical guidelines. In this retrospective research study, ethical approval was obtained from the Clinical Research Ethics Committee of Antalya Training and Research Hospital and due to the retrospective nature of the study design, informed consent from participants was deemed unnecessary.

Conflict of Interest:
The authors have no conflict of interest to declare.

Author Contributions:
Concept – O.K.; Design- O.K., O.T.A.; Supervision – O.K.; Resources – O.K., O.T.A.; Materials – O.K., O.T.A.; Data Collection and/or Processing – O.K., O.T.A.; Analysis and/ or Interpretation – O.K., O.T.A.; Literature Search – O.K., O.T.A.; Writing Manuscript – O.K., O.T.A.; Critical Review – O.K., O.T.A.

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