

Ocular Involvement in Rheumatoid Arthritis



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- Like the joints, the sclera and cornea contain proteoglycans and collagen
- meibomian gland, lacrimal gland, accessory lacrimal gland, or goblet cell dysfunction secondary to lymphocytic and plasma cell infiltrate of the lacrimal gland that lead to destruction of acini in the lacrimal glands

- Processes at play include:
- immune complex deposition
- secretion of collagenases (e.g., matrix metalloproteinases) by macrophages and neutrophils
- cytokine production
- complement activation
- and formation of autoantibodies

- a statistically significant association between the presence of anti-CCP antibodies and the ocular manifestations.

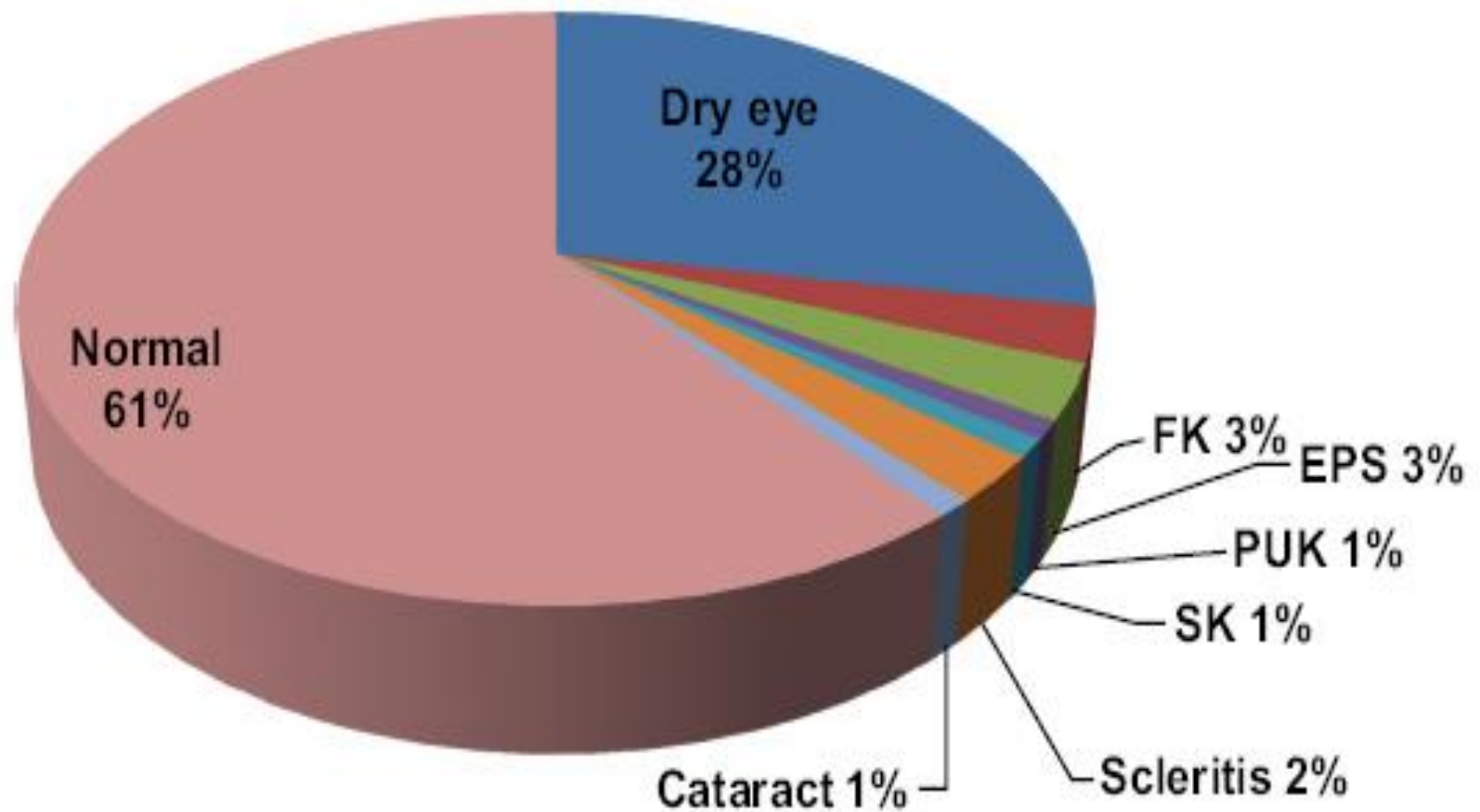


Figure 2 Percentage distribution of ocular manifestations of rheumatoid arthritis among the total study population.

Abbreviations: FK, filamentary keratitis; EPS, episcleritis; SK, sclerosing keratitis; PUK, peripheral ulcerative keratitis.

Dry Eye Syndrome(kcs)



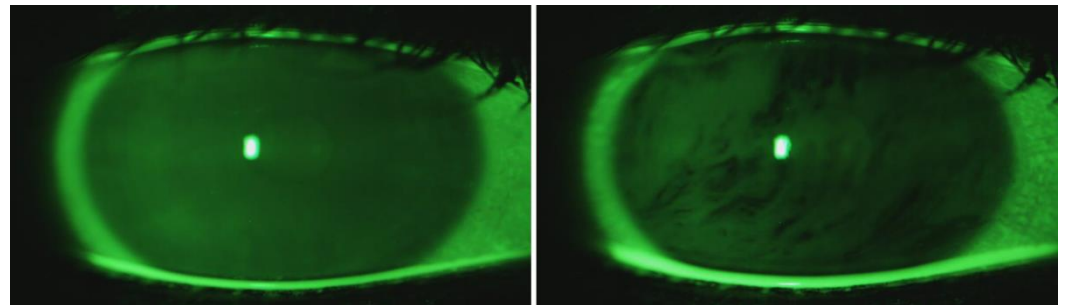
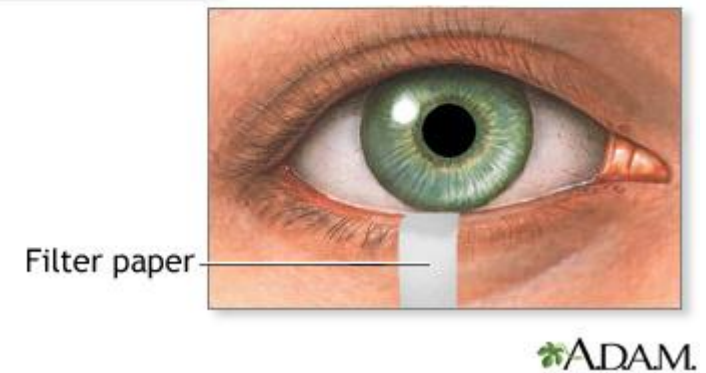
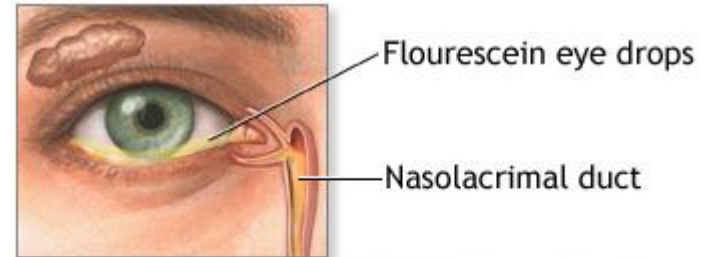
- the most common ocular manifestation of RA
- Symptoms of dry eye syndrome



Diagnostic signs include :

- Schirmer's test

- tear break-up time of 5 seconds or less.....



- TearLab Osmolarity Test



- InflammDry, Quidel>MMP-9 inflammatory marker



- strip meniscometry

A novel method

On tear function test

SMTube®

Strip Meniscometry Tube



	 The traditional Schirmer's test	 SMTube®
Usage	Inserting the Schirmer strip inside the lower eyelid (conjunctival sac)	Immersing the SMTube into the tear meniscus
Required time	5 minutes	5 seconds x 2 (for both eyes)
Invasiveness	invasive	Minimally-invasive

- Ocular Surface Disease Index(OSDI)

The OSDI is a valid and reliable instrument for measuring dry eye disease (normal, mild to moderate and severe) and effect on vision-related function.

Dry Eye Syndrome(kcs)

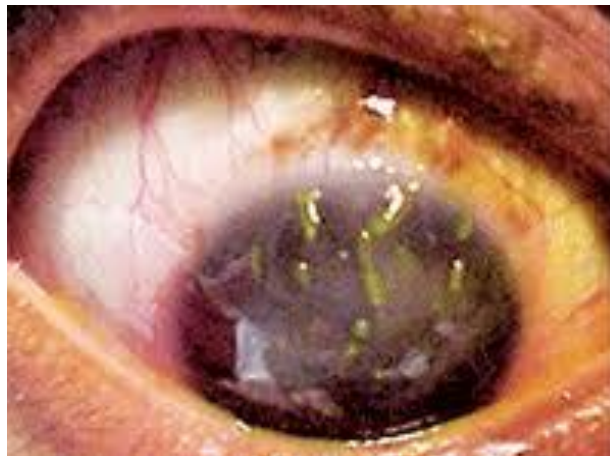
The severity of the symptoms correlates with the age and duration of RA, but does not correlate with the severity of arthritis

Dry Eye Syndrome(kcs)

- Up to 25% of patients with RA meet criteria for secondary Sjögren syndrome
- the prevalence of positive antiSS-B and antiSS-A antibodies is low in patients with RA

dry eye syndrome(kcs) can lead to:

- superficial punctate keratitis
- filamentary keratitis

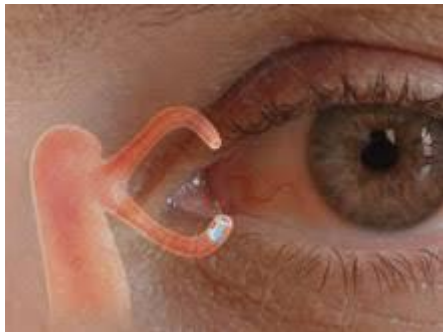


Therapeutic modalities

- lubricating drops and ointments
- topical cyclosporine



- In-office procedures include punctal occlusion



Episcleritis

- inflammation of the episclera
- is usually idiopathic
- It is bilateral 40% of the time
- salmon-pink eyes and mild pain



Episcleritis

- Its prevalence among patients with RA has been reported to be 1.5%



Episcleritis

- In contrast to scleritis, eye redness resolves with topical phenylephrine



Episcleritis

- Rheumatoid episcleritis affects women more frequently than men, and is most common in the sixth decade of life

Episcleritis

- usually self-limiting



Scleritis



- RA is the most common cause of scleritis
- inflammation of the sclera characterized by vasodilation of the superficial and deep episcleral vessels
- potentially blinding inflammatory disease

Scleritis

- Although scleritis may be the initial sign of rheumatoid disease, it usually presents > 10 Y after the onset of arthritis

Scleritis

- that patients with scleritis have more advanced joint disease and more extra-articular manifestations

Scleritis

- Exacerbation of scleritis often occurs at times of increased RA activity

Scleritis

- bilaterally 40% to 50% of the time

- Types of scleritis:

Anterior scleritis

Scleromalacia perforans

Posterior scleritis

Anterior scleritis

- nodular, diffuse, or necrotizing
- intense pain ,blurry vision, photophobia, and tearing
- violet-bluish hue with scleral edema and dilatation.



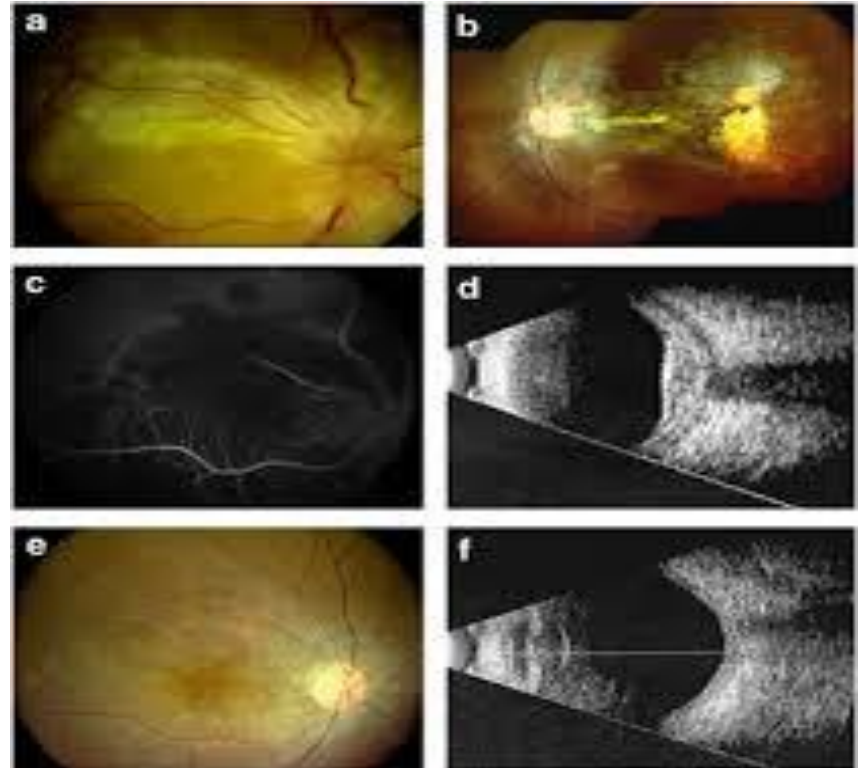
Scleromalacia perforans



- anterior necrotizing scleritis without inflammation
- progressive thinning of the sclera without significant redness or pain
- blue-black hue

Posterior scleritis

- a white eye, but with severe retrobulbar pain
- “T” sign on B-scan



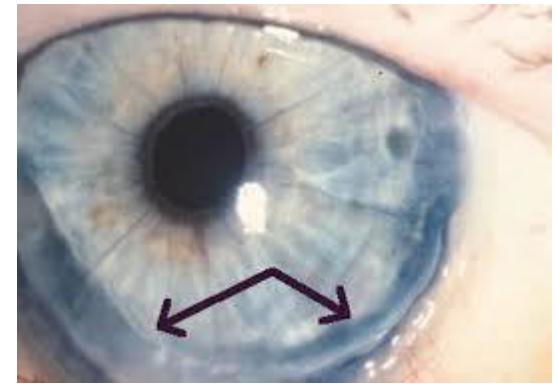
Scleritis

- The presence of scleritis in patients with RA is associated with increased mortality
- Necrotizing scleritis is associated with a higher mortality than the other forms

Scleritis

- Topical medications are generally not enough in the treatment of scleritis

Peripheral Ulcerative Keratitis



- a type of corneal melt that occurs when immune complexes infiltrate the vascular arcades in the 0.5-mm corneal periphery
- neovascularization of the corneal periphery and crescent-shaped juxtalimbal ulcers

Peripheral Ulcerative Keratitis

- it can occur secondary to scleritis, especially necrotizing scleritis
- RA is the most common etiology, accounting for 34% of cases



Peripheral Ulcerative Keratitis

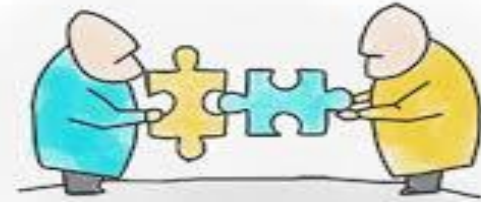
- PUK is associated with increased mortality in patients with RA, and it can be a sign of impending systemic vasculitis

Peripheral Ulcerative Keratitis

- The treatment strategy should prioritize management of the underlying RA
- Systemic corticosteroids
- immunologic agents

Retinal vasculitis

- a serious and potentially blinding condition
- Asymptomatic, decreased visual acuity, visual floaters, scotomas, decreased ability to distinguish colors, and metamorphopsia



- Collaborative efforts between the ophthalmologists and rheumatologists involved in the evaluation and treatment of patients with RA are essential to effectively manage any ocular complications that may arise

**Thanks for
your attention.**