

Rabamipide:360° Benefits in Dry eye syndrome



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Prevalence of Dry Eye Syndrome:

✓ **One in four patients** attending ophthalmic clinics report symptoms of dry eye.

✓ Prevalence of dry eye ranges from 5% to 35% worldwide, while in **India it is 29%**¹

✓ The prevalence increases as population ages²

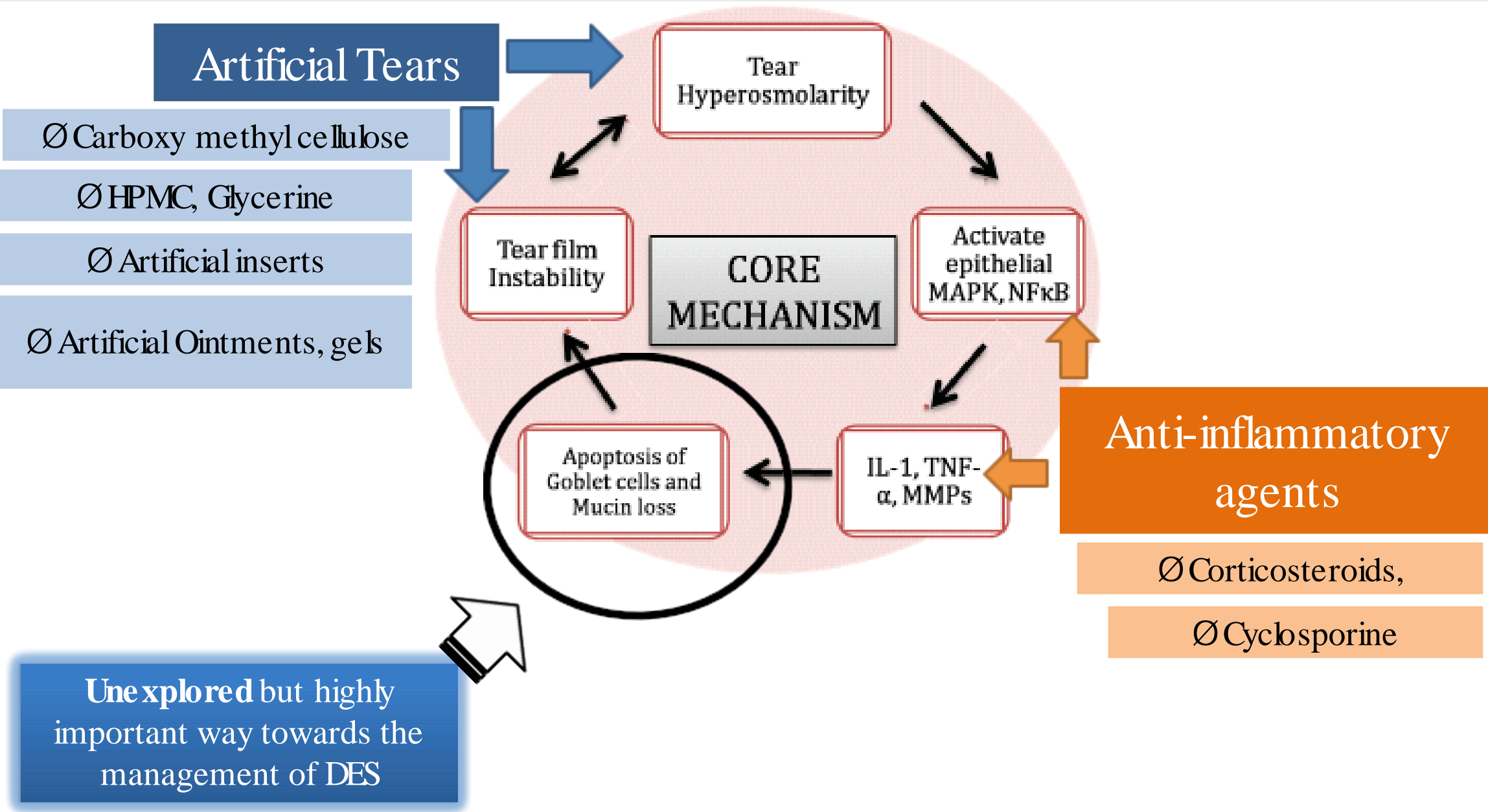
✓ It affects women more than men²



1. Medical Journal of Dr. D.Y. Patil University, 2014, 7(1), 13-18

2. Keratoconjunctivitis, Sicca". eMedicine. WebMD, Inc. January 27, 2010. Retrieved September 3, 2010

Current topical treatment for Dry Eye Syndrome:



It is found that, there is **76%**
decrease in Goblet cell density in
DES

and therefore...

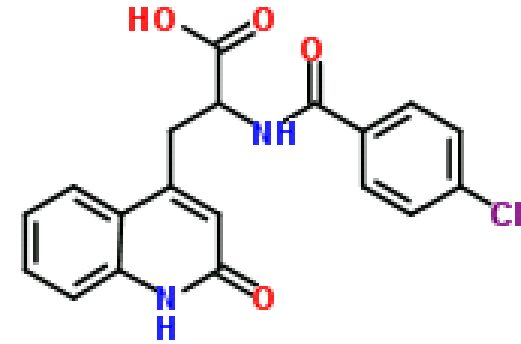
Increase the proliferation of goblet cells and thereby mucin secretion
should be considered as the
first criteria in management of Dry eye syndrome



Rebamipide

Rebamipide:

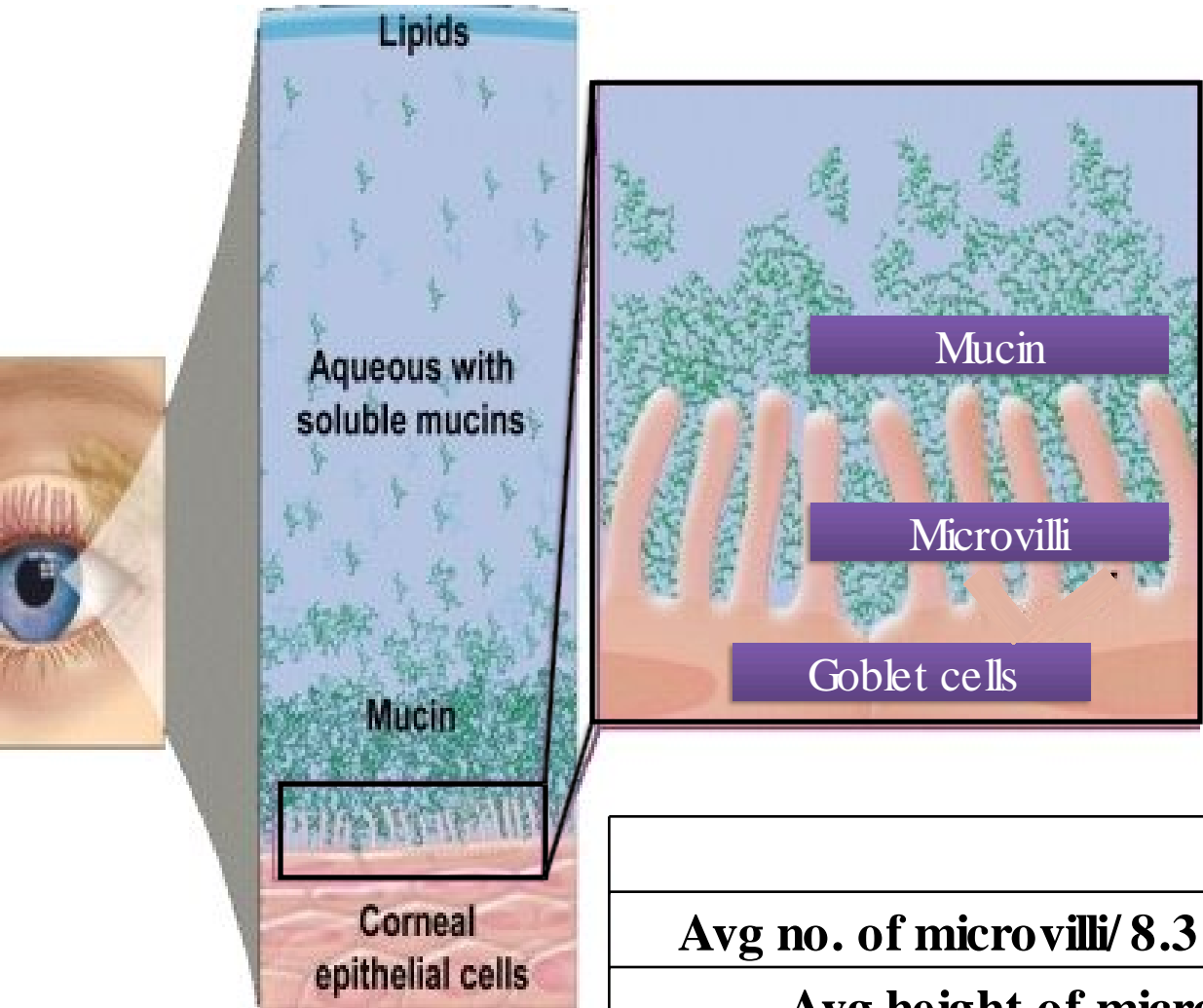
Rebamipide belongs to the class of **Mucin secretagogue**



Recently **Rebamipide** 2% topical suspension is approved in Japan for Treatment of Dry eye syndrome.



Microvilli:



Microvilli

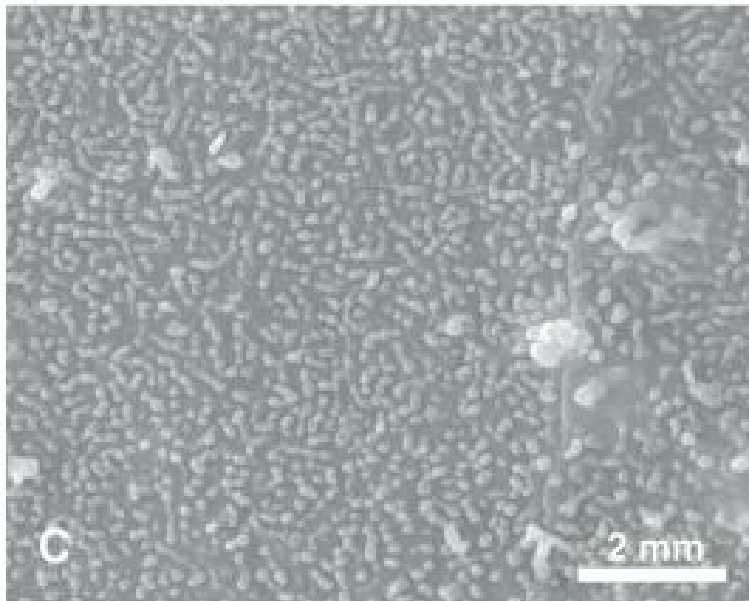
Microvilli contribute to the stabilization of the tear fluid by **serving as a scaffold for the localization of mucin**

In dry eye patients, it has been reported that **microvilli decreases in number and become irregular**

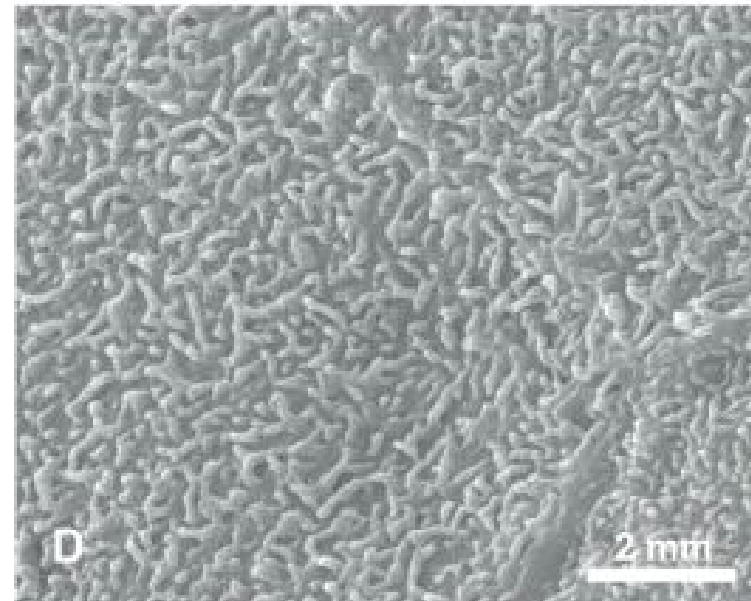
	Dry eye	Normal
Avg no. of microvilli/ 8.3 μm /area	19.6	28
Avg height of microvilli	0.54 μm	0.95 μm

Rebamipide role on microvilli:

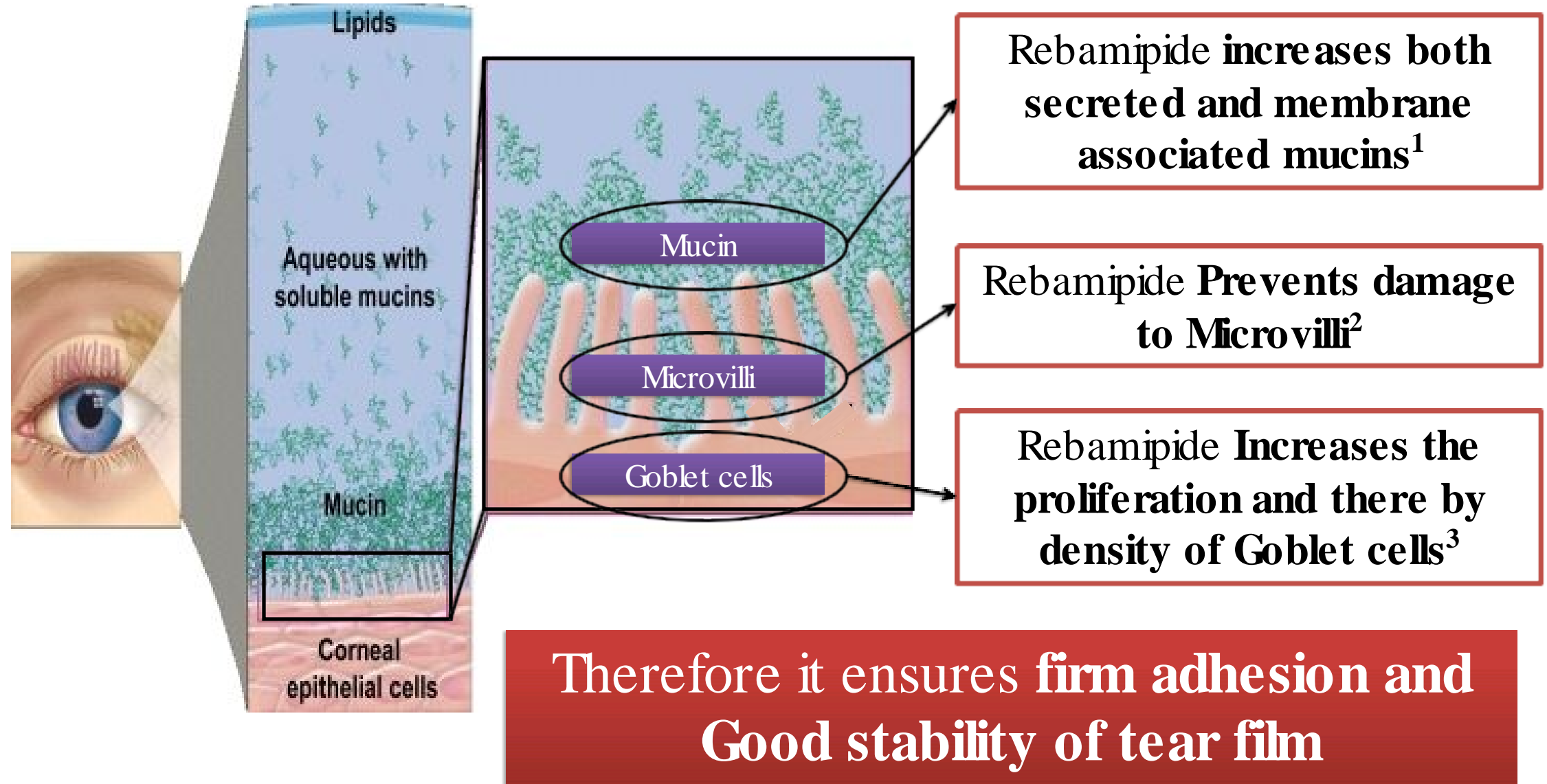
Vehicle treatment



Rebamipide treatment



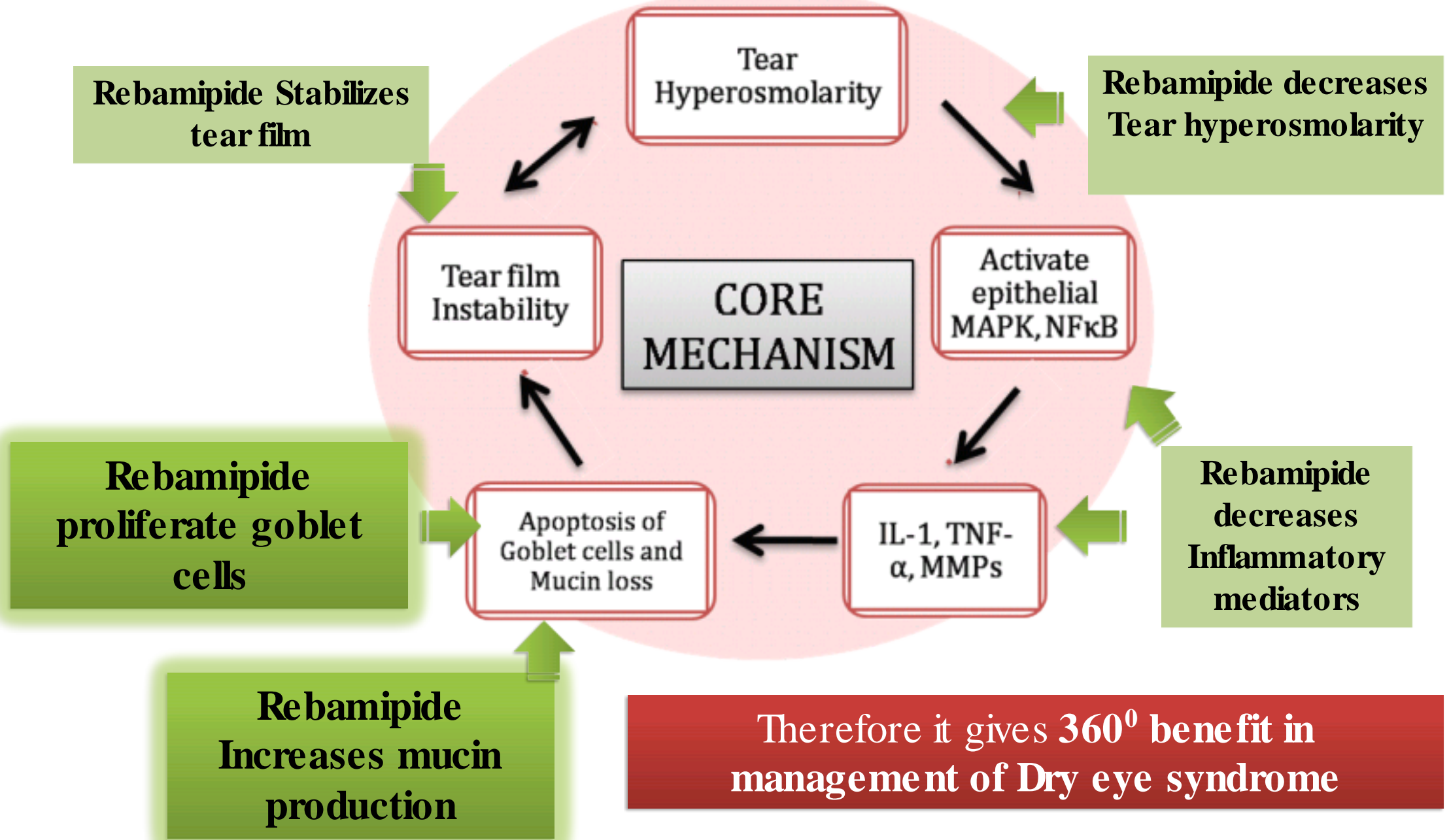
Rebamipide:



1. Ocular Pharmacology and Therapeutics 2012; 28(3):259-63

2. Clinical Ophthalmology 2014;8 1003 –1010 3. Invest. Ophthalmol. Vis. Sci. October 29, 2013 IOVS-13-

Rebamipide:



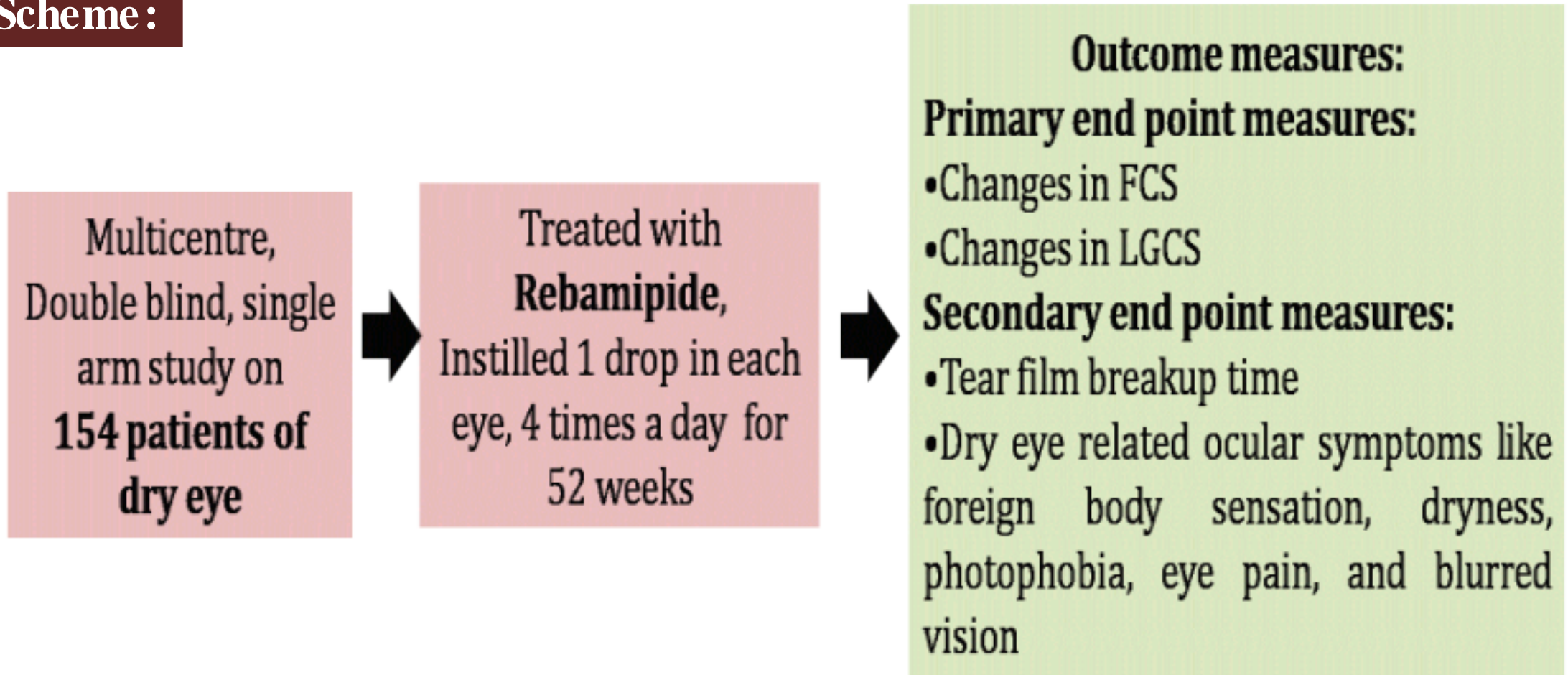
Rebamipide:



Clinical evidences

•Rebamipide improves both objective signs and subjective symptoms in DES

Scheme :



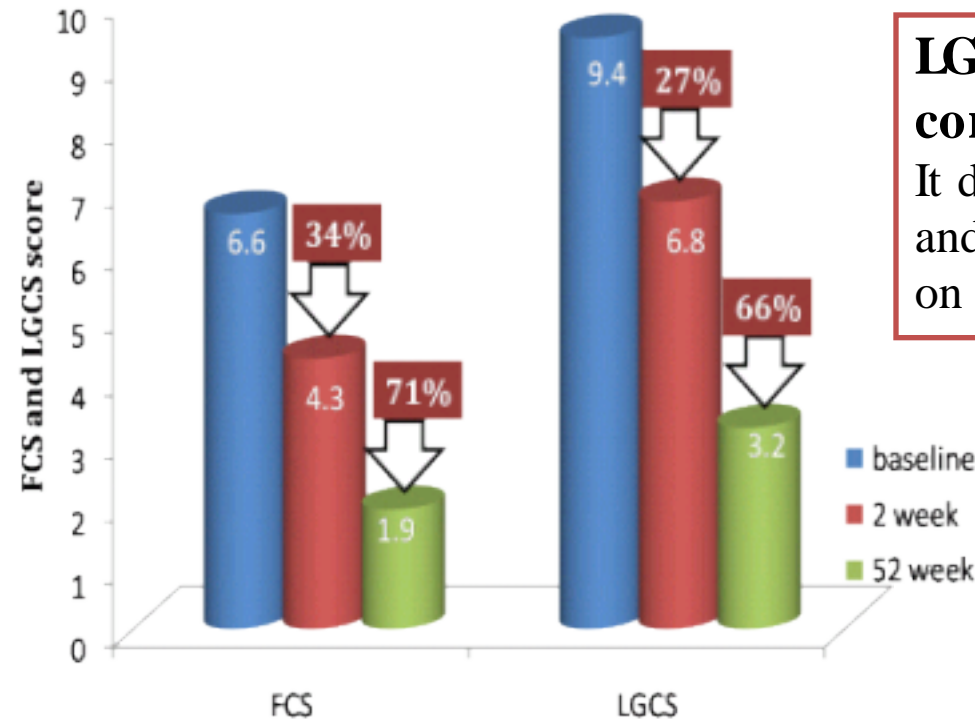
•Rebamipide improves both objective signs and subjective symptoms in DES

Result:

- There was significant decrease in FCS , and LGCS score from baseline after 2 and 52 weeks.

FCS: fluorescein corneal staining:

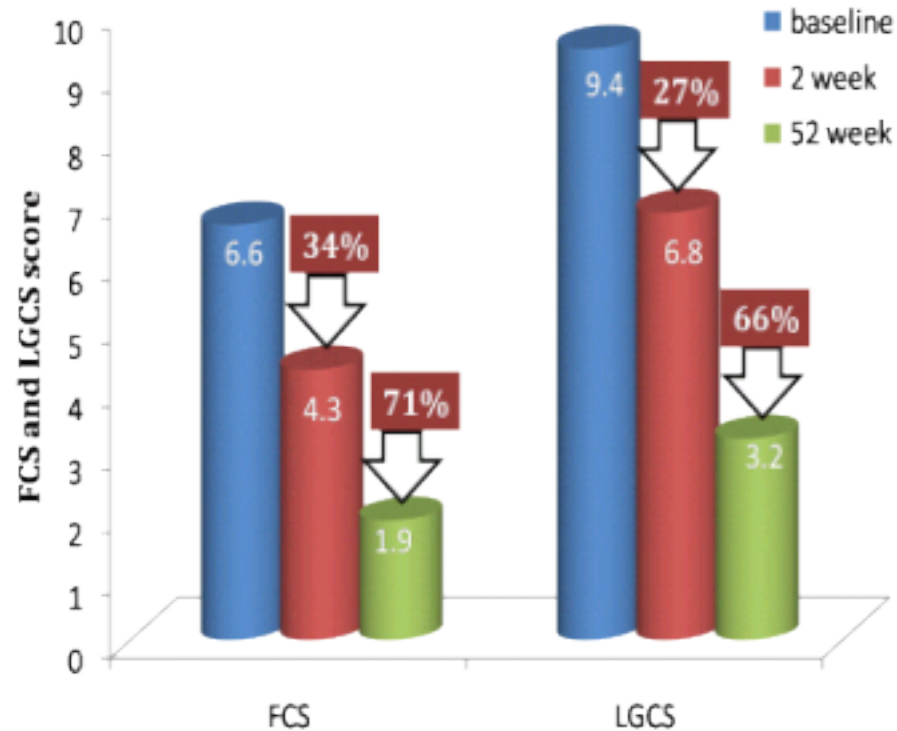
It detects the damaged cornea.



LGCS: Lissamine green conjunctival staining:

It detects degenerated cells and damaged mucous layer on conjunctiva

- Rebamipide improves both objective signs and subjective symptoms in DES



- Rebamipide improves both objective signs and subjective symptoms in DES

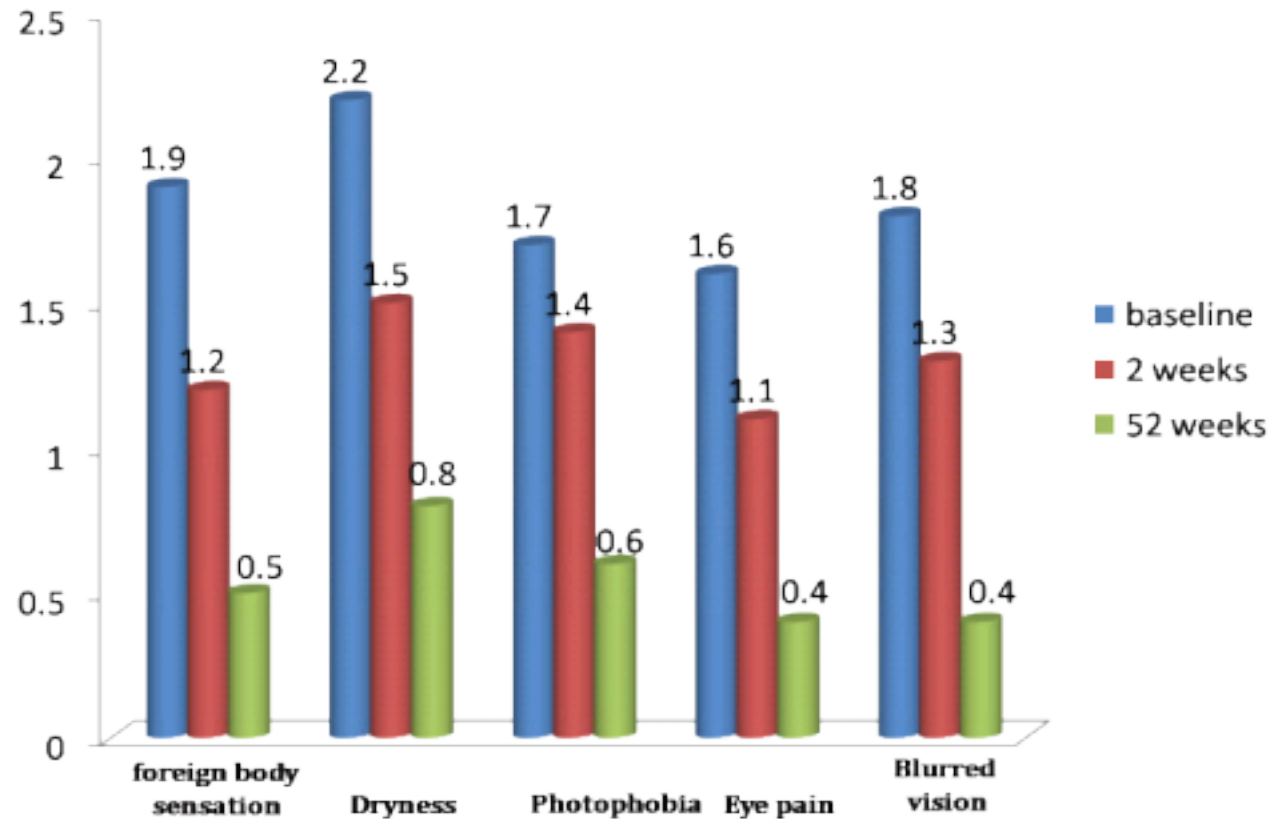
Result:

- The **Tear break up time** was increased from 2.41 sec to 2.96 sec at end of 2 weeks and up to 3.74 at the end of 52 weeks

•Rebamipide improves both objective signs and subjective symptoms in DES

Result:

- Significant improvement in dry eye related ocular symptoms



CONCLUSION: 2% rebamipide is effective in improving both the objective signs and subjective symptoms of dry eye patients.

Effect of Rebamipide Eye drop on Signs and Symptoms of Keratoconjunctivitis Sicca in Sjogren Syndrome Patients

30 patients of dry eye signs and symptoms in Sjogren Syndrome patients



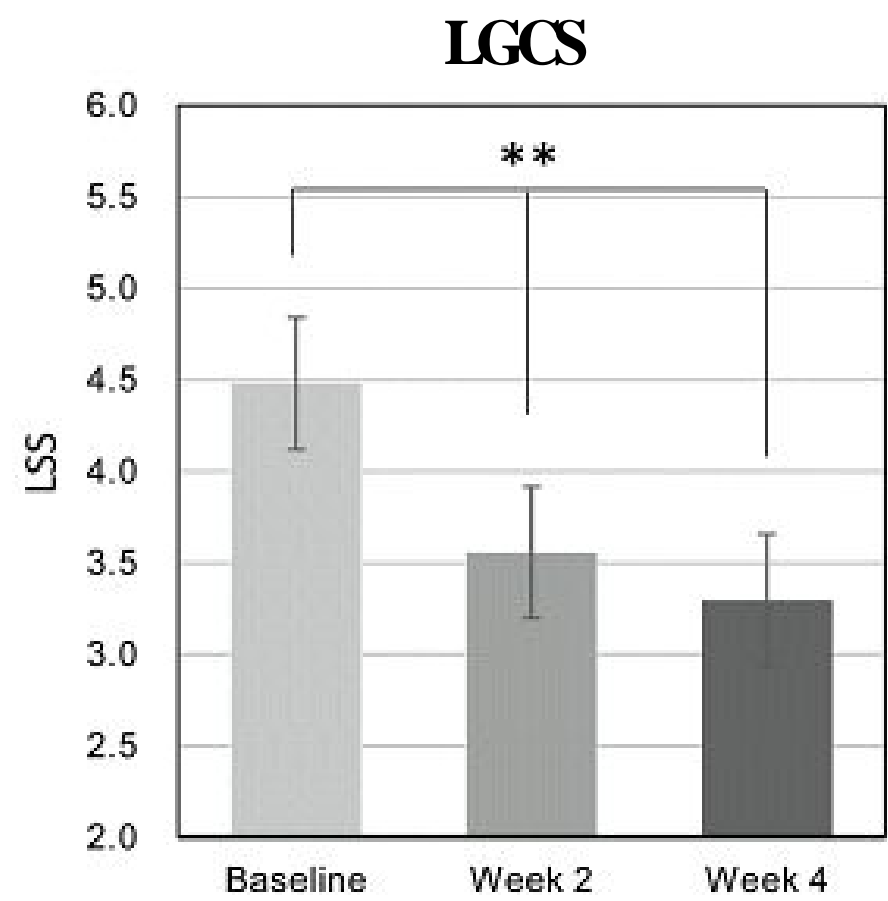
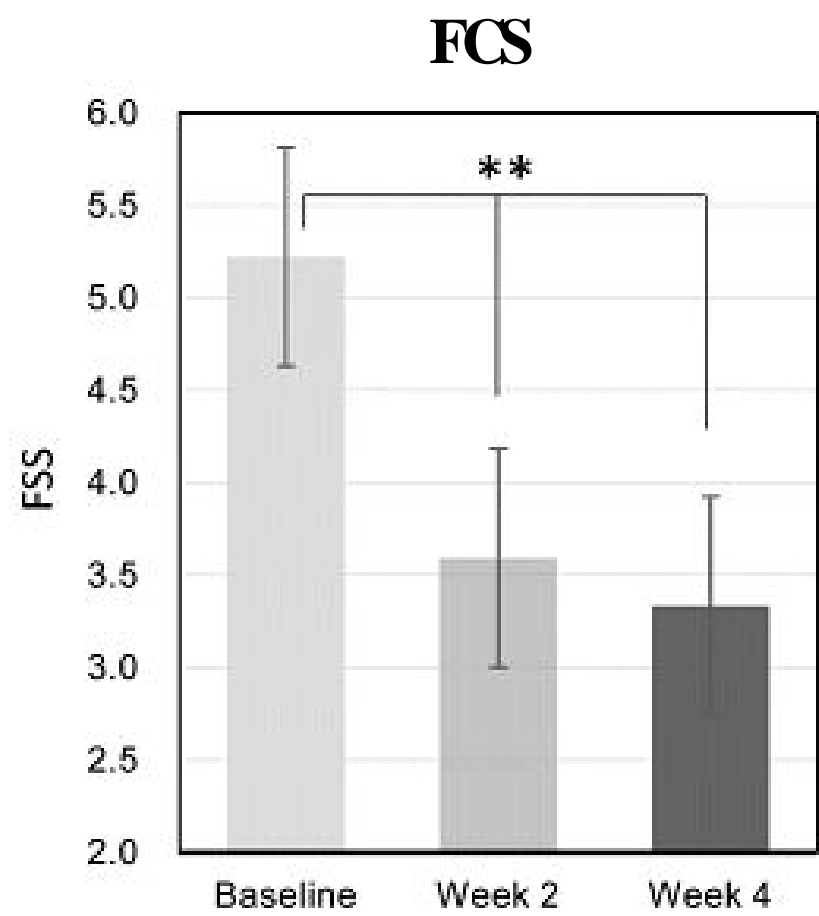
Rebamipide 2% eye drop, 1 drop QID for 4 weeks



1. Fluorescein staining score (**FSS**)
2. conjunctival lissamine green staining score. (**LSS**)
3. Tear film break up time (**BUT**)
4. Dry eye symptoms (foreign body sensation, dry eye sensation, photophobia, ocular pain, blurred vision)

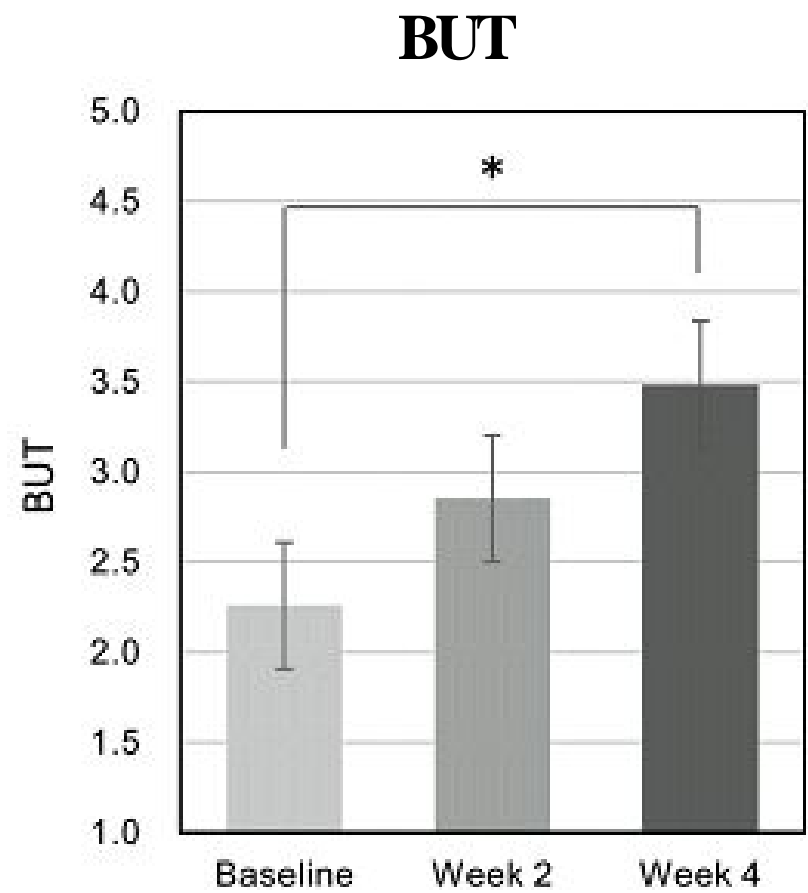
Effect of Rebamipide Eye drop on Signs and Symptoms of Keratoconjunctivitis Sicca in Sjogren Syndrome Patients

Result:



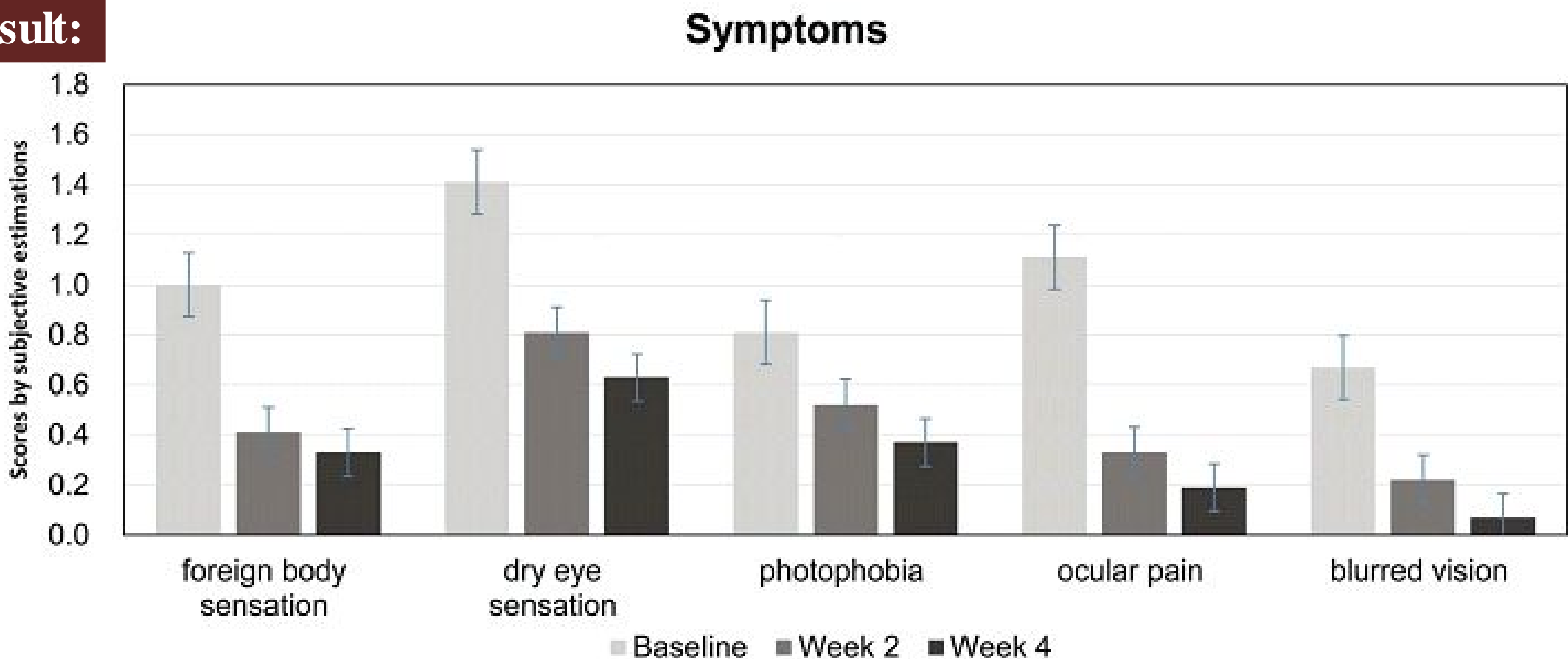
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Result:



Effect of Rebamipide Eye drop on Signs and Symptoms of Keratoconjunctivitis Sicca in Sjogren Syndrome Patients

Result:



CONCLUSION: Rebamipide ophthalmic Eye drop was effective in treating KCS of patients with SS, probably by increasing mucins and suppressing inflammatory cytokines.

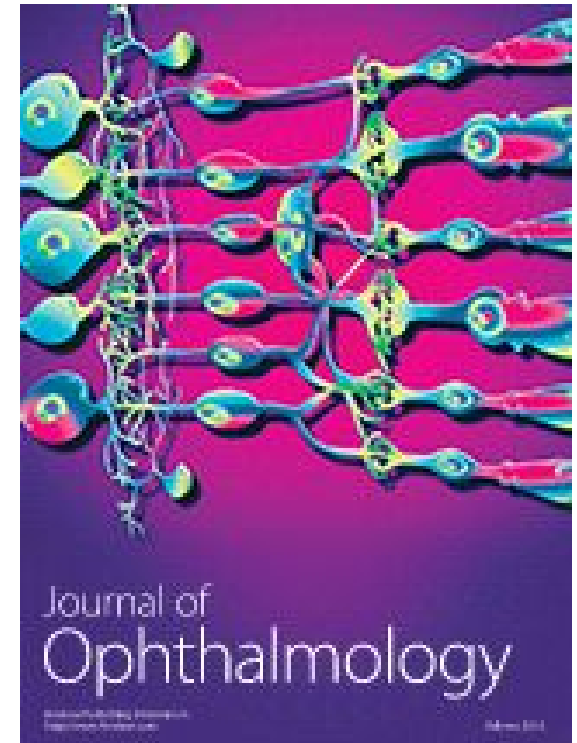
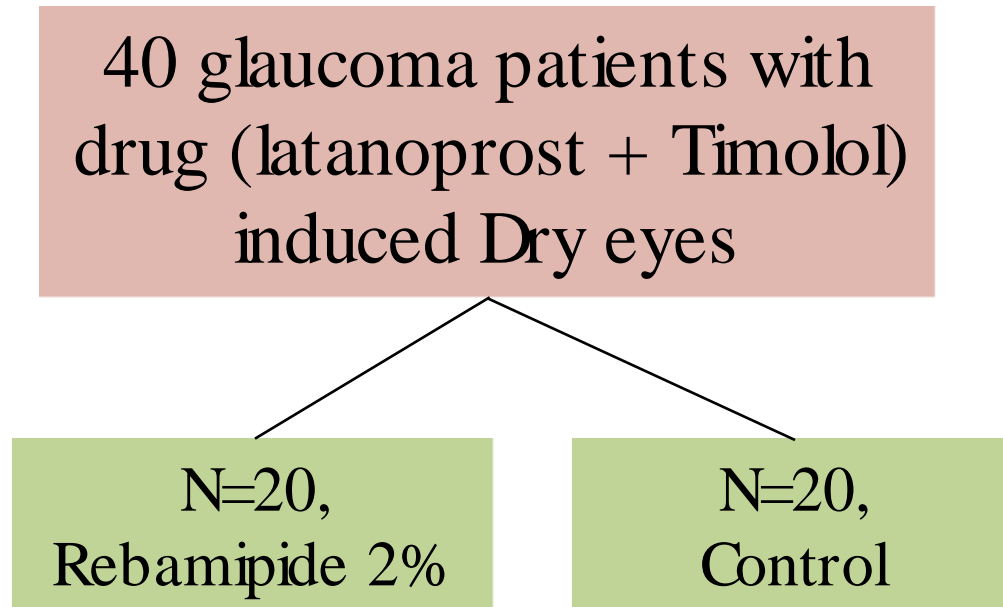
Rebamipide:



**Most recent (2015)
Clinical evidences**

- Rebamipide is also effective in drug induced dry eyes

Study design:

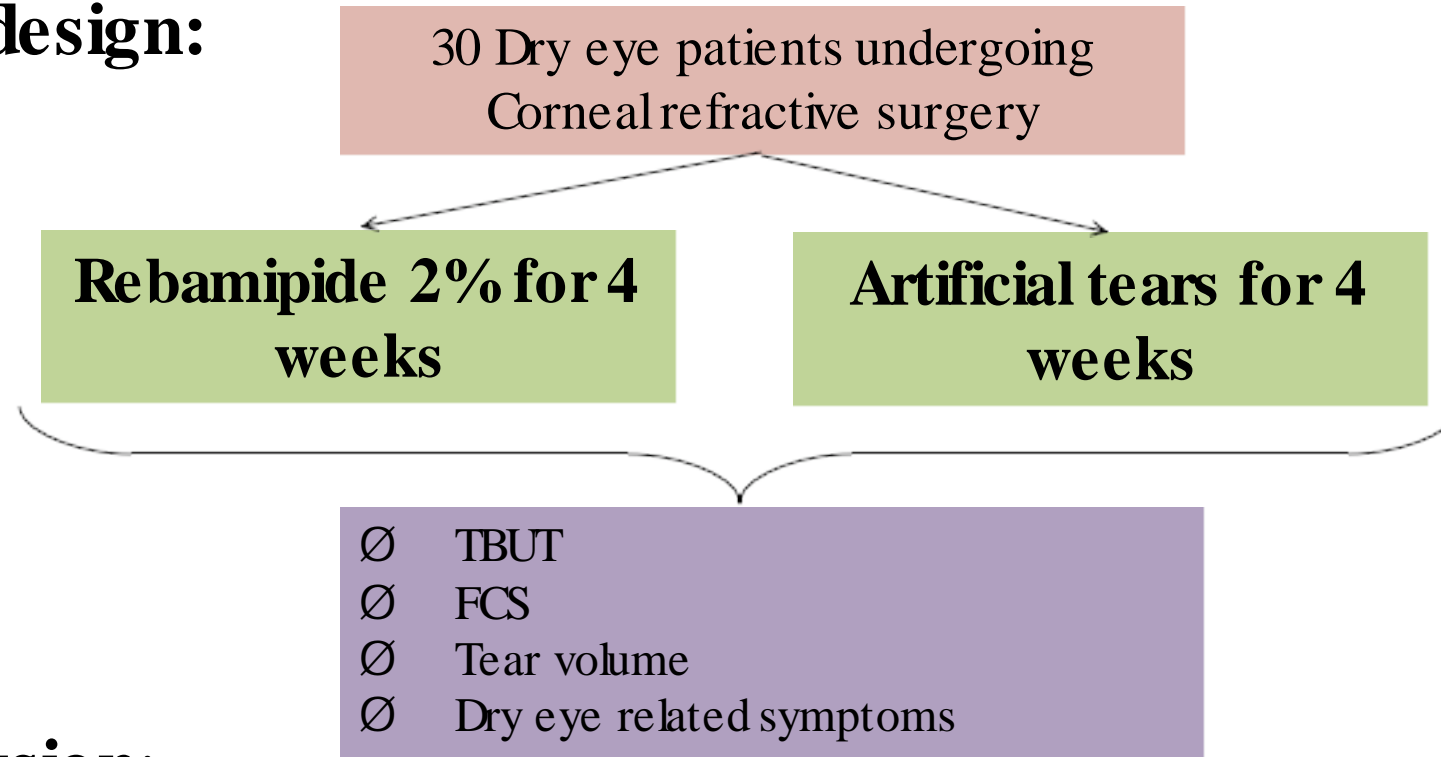


Conclusion:

These findings suggest that rebamipide eye drop improve dry eye and repair drug-induced keratopathy when antiglaucoma eye drop induced ocular surface disorder occurs.

- **Rebamipide**: in management of Dry eyes associated with surgeries

Study design:



Conclusion:

Rebamipide was effective for improving both ocular surface parameters in patients with dry eye undergoing corneal refractive surgery, suggesting that it hold promise for the treatment of such patients.

- Rebamipide attenuates giant papillae in patients with allergic conjunctivitis like VKC/AKC

VKC: Vernal keratoconjunctivitis is chronic, recurrent, allergic inflammation of conjunctiva

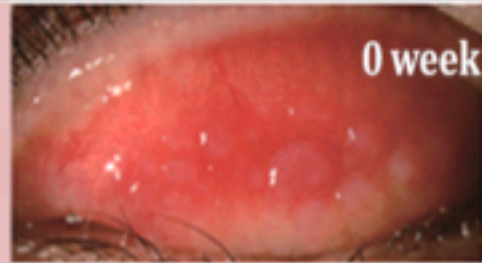
It is characterized by presence of giant papillae



•Rebamipide attenuates giant papillae in patients with allergic conjunctivitis like VKC/AKC

Case 1

Patient was on
topical tacrolimus (0.1 %/2 day),
Fluometholone (0.1%, 4/ day) with
systemic prednisolone for more than
1 year

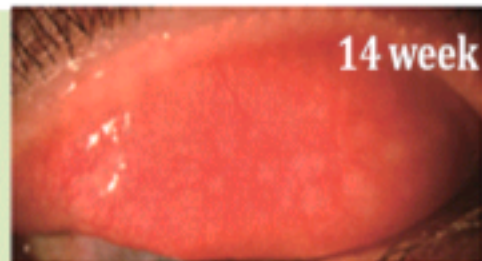
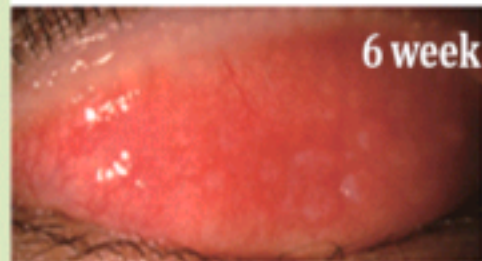
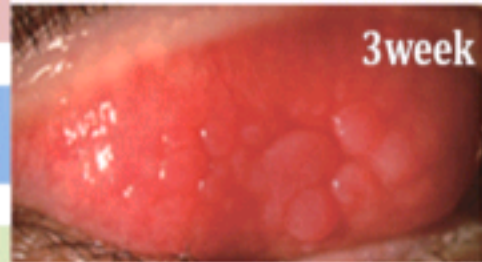


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Treated with Rebamipide



After 6 weeks the
Giant papillae were smaller,
subjective symptoms were milder,
prednisolone dose was reduced to
half



After 13 weeks the
giant papillae were almost flat
After 17 weeks **Prednisolone**
treatment was stopped

Case 2

VKC Patient previously treated with
tacrolimus (0.1 % ,2/day),
betamethasone (0.1%, 4/day), which
showed no beneficial effect



Added systemically prednisolone
(10mg/day) for 3 weeks, no benefit,
VKC become severe



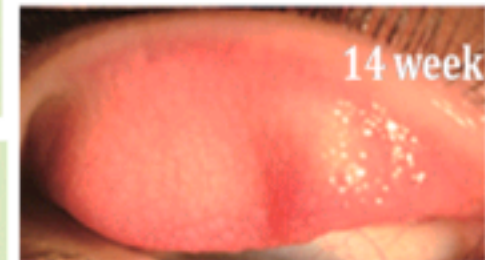
Treated with Rebamipide



After 3 weeks the
Giant papillae were smaller,
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After 6 weeks the
giant papillae were almost flat



•Rebamipide attenuates giant papillae in patients with allergic conjunctivitis like VKC/AKC

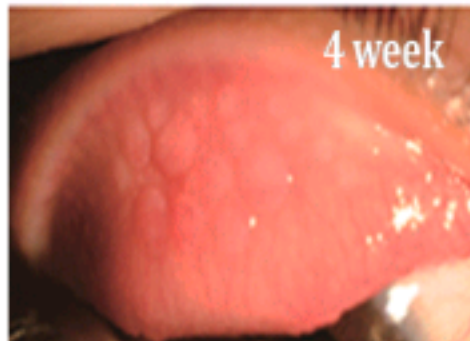
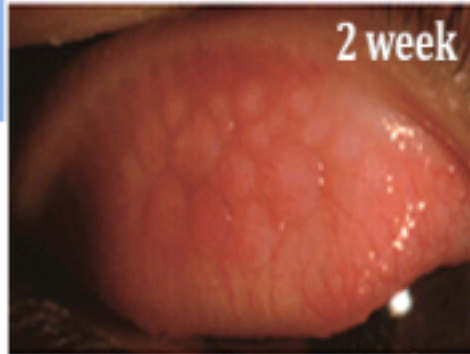
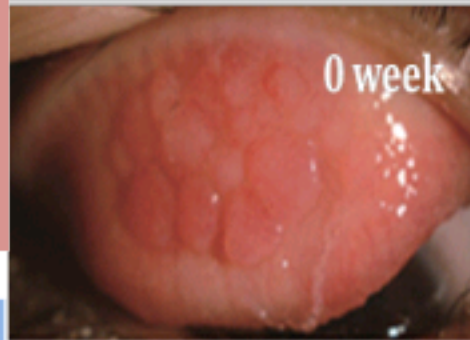
Case 3

VKC patient was on
Fluomethalone (0.1%) 4/day,
Olopatadine (0.1%/4day)

Added Rebamipide
and stopped Olopatadine

After 2 weeks the
Giant papillae were smaller,
Severity of discharge and itching
was less

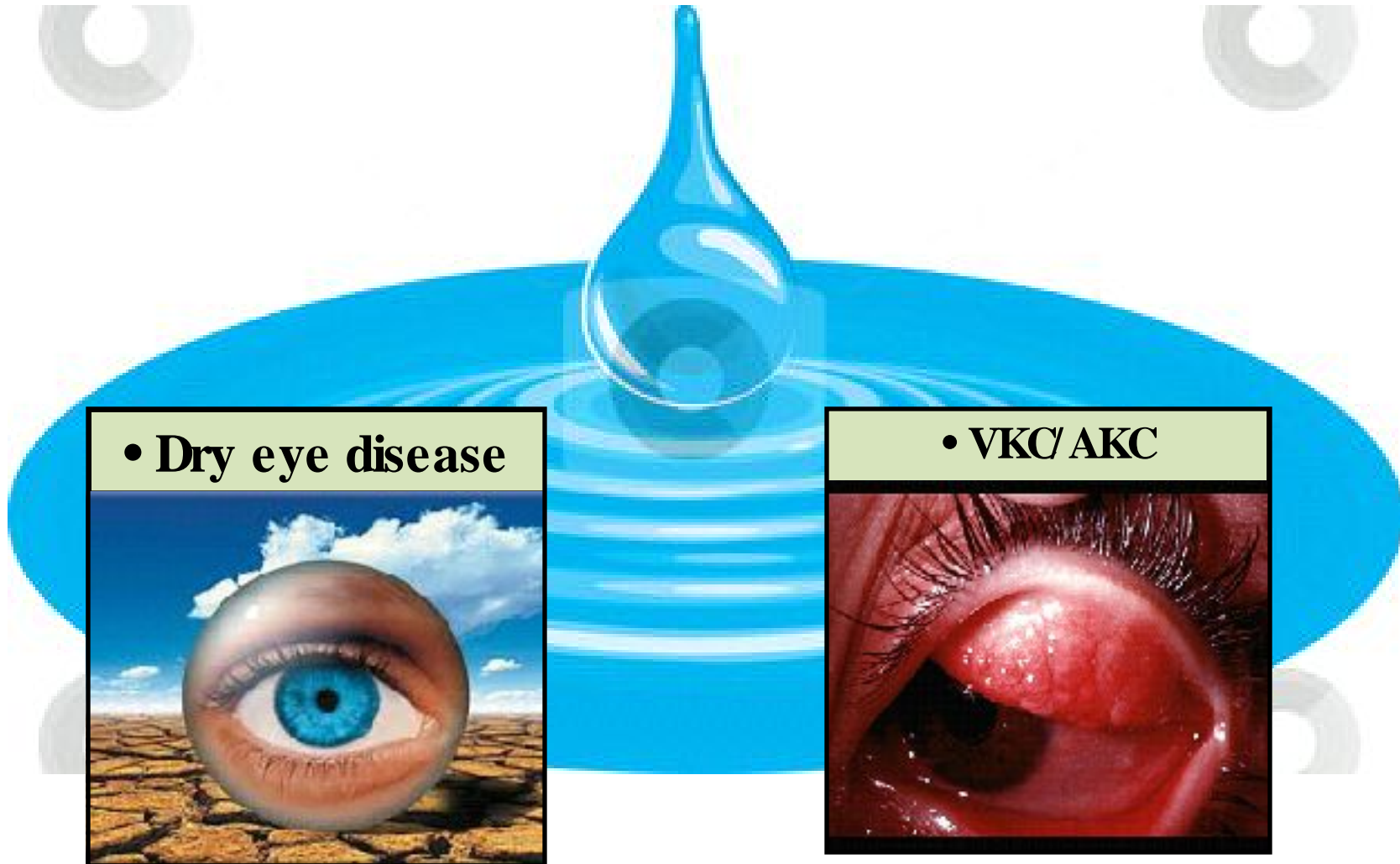
After 4 weeks the
giant papillae were further
smaller and flatter



Conclusion:

Rebamipide eye drops attenuates giant papillae in patients with allergic conjunctival diseases and therefore is useful for the treatment of not only dry eye but also of allergic conjunctival diseases

Indications of Rebamipide:



- **Dry eye disease**



- **VKC/ AKC**



•Dosage:

- ✓ Instill 1 drop at a time,
4 times daily for 4 weeks or as directed by physician

•Safety:

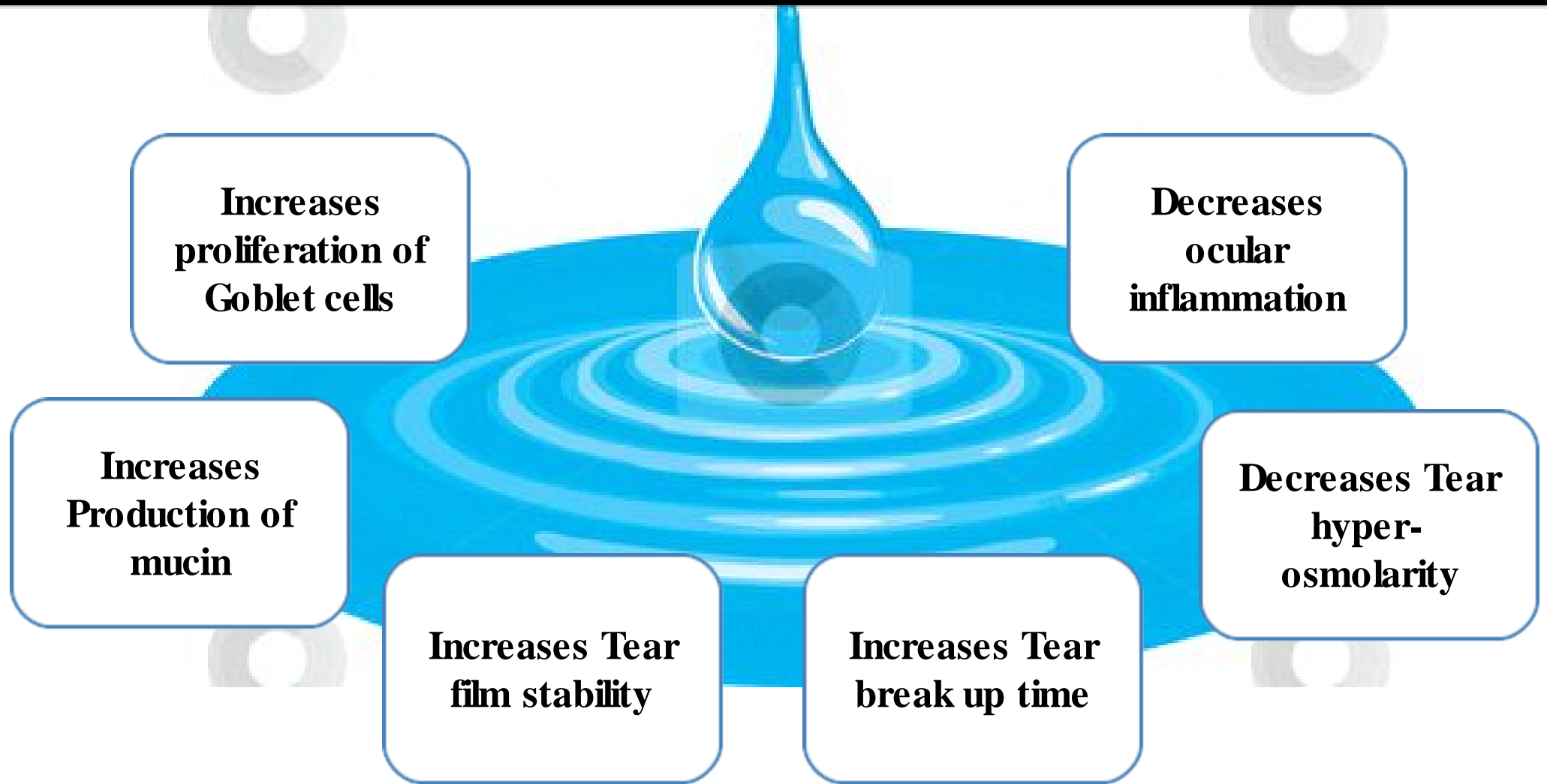
- ✓ No life threatening or serious adverse events were noted.
- ✓ The most frequent adverse event in **Rebamipide** ophthalmic treatment was dysgeusia (9.7% of patients)
- ✓ Otherwise the treatment is generally well tolerated.

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•Contraindication:

- ✓ Contraindicated in patients having allergy for components of product

Summary Rebamipide:



Safe and well tolerated treatment

360° benefit in Dry eye syndrome



you

From the makers of ...

