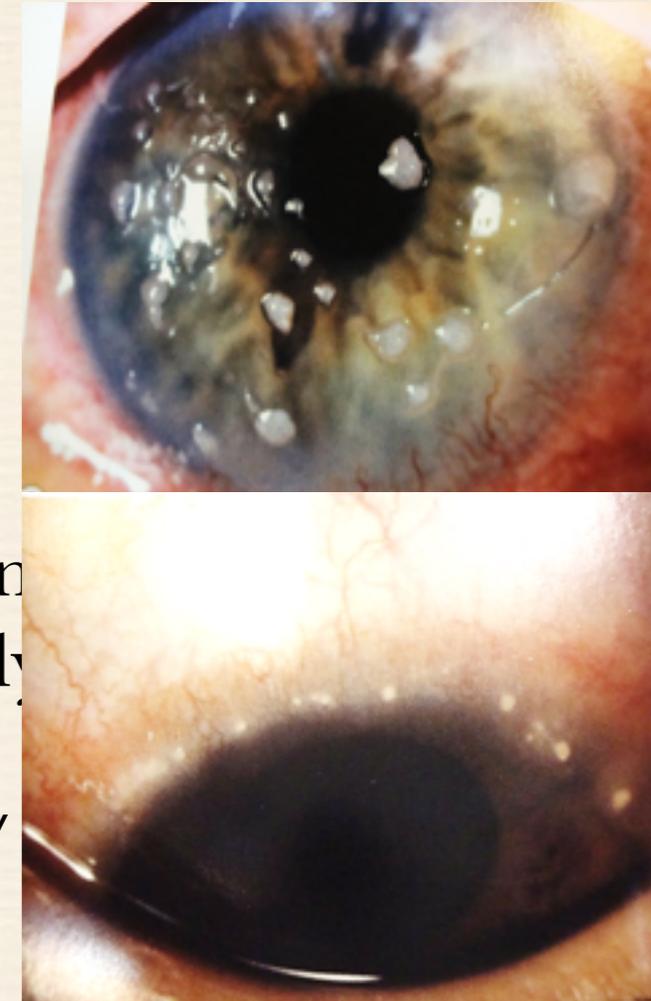


Acetylcysteine Eyedrops

- ❖ **Authors:** S. Irfan, T. Qurban. Mughal eye Trust Hospital, Lahore, Pakistan.
- ❖ **Objective:** To see the efficacy of 0.5% Acetylcysteine eyedrops (instead of recommended 10%) in dissolving corneal mucus plaques.
- ❖ **Pathophysiology:** Corneal mucous plaques are collection of mucus, epithelial cells, and proteinaceous material firmly adherent to the corneal surface. The plaques enmesh calcareous granules, bacteria, dust particles and promote / aggravate ocular surface inflammation.¹ The dry corneal surface epithelial cells & broken intercellular tight junctions by preservatives² provide receptor sites for their adherence. Mucus viscosity increases further by corneal surface dehydration and proteolytic enzymes released by staphylococci.



- ❖ **Methods:** This was a prospective clinical study of 63 consecutive cases presenting with moderate to severe dry eyes (31 cases), VKC (11 cases) and filamentary keratitis (21 cases). There were 50 females and 13 males with an age range of 11- 68 yrs (mean 40 yrs). All were prescribed freshly prepared Acetylcysteine eyedrops 0.5% plus lubricants. Baseline Schirmer's 2 test, Tear Film BUT, corneal Fluorescein staining was noted. They were followed up weekly for 1 month and then monthly for 6 months.
- ❖ **Preparation of 0.5% eyedrops:** Acetylcysteine is available as Mucolyte sachets containing 200 mg of water-soluble granules.
- ❖ 75 mg of these granules is dissolved in 15 ml Tears Natural (Alcon), to be used hourly or 4 x/day, depending upon the need.
- ❖ **Results:** All cases improved remarkably within 48 hours, both subjectively and objectively. The mucus plaques cleared up totally after 4 days of 2 hourly usage of Acetylcysteine eyedrops and did not re-appear. No side-effects like stinging, burning (as seen with 10% conc.) were noted.

- ❖ **Conclusion:** 0.5% Acetylcysteine eyedrops are safe, easy to prepare and highly effective in dissolving mucus plaques on the ocular surface. As compared to the 10% concentration recommended in literature, 0.5% conc. is as effective and without any known side-effects.
- ❖ Use recommended in Severe dry eyes, Filamentary Keratitis, VKC, Chemical ocular injury.
- ❖ **References:**

1. Fraunfelder FT, Wright P, Tripathi RC. Corneal mucus plaques. *Am J Ophthalmol.* 1977 Feb. 83(2):191-7.
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3. Shaw EL, Gasset AR. Management of an unusual case of keratitis mucosa with hydrophilic contact lenses and N-acetylcysteine. *Ann Ophthalmol.* 1974 Oct. 6(10): 1054-6.