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# Evaluation of anti glaucoma effect of Aloe vera (L.) Burm.f. in cellulose induced glaucoma in New Zealand white rabbits

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**Background:** Glaucoma is a serious global health problem. It is the second leading cause for blindness globally and third leading cause of blindness in India. Glaucoma is a progressive optic neuropathy characterized by visual field changes and cupping of optic disc. Raised intraocular pressure (IOP) is one of important risk factor for glaucoma. Symptoms of glaucoma is photophobia, lacrimation, buphthalmos and blepharospasm. In folklore medicine the use of aloevera is described to reduce intra ocular pressure but not yet supported with experimental evidence. Aloe vera is a medicinal plant having proved anti oxidant, anti microbial, anti-proliferative, anti infflamatory and wound healing property.

Objective: To evaluate anti glaucoma effect of Aloe barbadensis Miller gel in New Zealand white rabbits.

**Methods:** 56 New Zealand white rabbits (weight 1.5–2.5 kg) of either sex were randomly divided into seven groups. Group 1: Normal control, Group 2: Disease control, Group 3: Active control (timolol 0.5%), Group 4: 6% Aloe barbadensis Miller gel, Group 5:12% *Aloe barbadensis* Miller gel, Group 6: 6% *Aloe barbadensis* Miller gel+timolol 0.5%, Group 7:12% *Aloe barbadensis* Miller gel+timolol 0.5% . Intra ocular pressure is measured before increasing IOP and at 0 min, 15 min, 30 min, 1 hour, 2 hour, 4 hour, 8 hour, 12 hour, 24 hour, 36 hour and 48 hour. Pupil size, light reflex and conjunctival colour in each group was also noted.

**Results:** Statististically significant reduction in IOP obtained in active control group, 6% Aloe barbadensis Miller gel group, 12% *Aloe barbadensis* Miller gel group, 6% *Aloe barbadensis* Miller gel+timolol 0.5% group, 12% *Aloe barbadensis* Miller gel+timolol 0.5% group when compared to Disease control group at 4 hour, 12 hour, 24 hour, 36 hour. Statististically significant reduction in IOP was found in 12% Aloe barbadensis Miller gel+timolol 0.5% when compared to active controle group (timolol 0.5% alone) at 12 hour, 24 hour, and 36 hour.

**Conclusion:** 12% *Aloe barbadensis* Miller gel reduces IOP and has shown promising results to be used as an add on remedy for additional anti glaucoma effect.

### **Biography**

Jhanvi Vaghela is an MD student at Pharmacology Department, Government Medical College Bhavnagar & Maharaja Krishnakumarsinhji Bhavnagar University, Gujarat, India, under the supervision of Dean & Professor Dr. C.B.Tripathi. She is currently conducting a research on the therapeutic drug level monitoring of antiepileptic drugs. So far she has published one case report in the journal current drug safety.

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