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## Analytical Study of *Triphala* Eye Drop- An Ayurvedic Formulation

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### ABSTRACT

*Triphala* eye drop is a herbal topical formulation, which is recommended by *Sharangadhara* in the management of *Sharva Abhishyanda Nashak*. The formulation is useful in mucopurulent discharge, watering, photophobia, burning sensation, stickiness in eyes like, ocular disorders. Keeping all these points in view the present study has been undertaken with the aim to modify *Triphala Aschyotana* into drop form and to develop the physiochemical profile of the final product. This form of drug was designed by using eye drop as *Kwath* which is mixed with *Triphala Churna* and water; drug was adopted for attaining the final product (eye drop).

**Materials and Methods:** The present study deals with development of preliminary pharmaceutical profile (organoleptic study, physiochemical study; pH value microbial contamination test and TLC profile) of *Triphala* eye drop.

**Result:** In result organoleptic character, sterility and TLC profile was clearly found.

**Conclusion:** *Triphala* eye drop was prepared by following method prescribed in *Sharangdhar Samhita*. This paper presents the analytical study of the formulation.

### KEYWORD

Organoleptic, *Shrava Abhishayanda Nashak*, *Triphala* eye drop



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## INTRODUCTION

In *Ayurvedic* classical texts there are different formulations indicated in ocular disorders and also their administration procedures are different depending upon the need. *Aschyotana*<sup>1</sup> is one of such administration procedures. *Aschyotana*<sup>2</sup> (eye drop) by *Triphala* which has its pharmacological action on *Kleda* (watering), *Updeha* (stickiness), *Kandu* (itching), *Daha* (photophobia), *Shopha* (inflammation), *Raga* (congestion), *Peetabh Darshana* (coloured haloes), which are the main symptoms of *Pittaja Netraroga*<sup>3</sup>. *Triphala Achyotana* is *Sarva Abhishayanda Nashak* i.e., it is a remedy for all types of conjunctivitis. *Acharya Sushruta* has also cited all three contents of *Triphala* (*Amlaki*, *Haritki*, *Vibhitaki*) as *Chakshusya*<sup>4</sup>. This paper presents the analytical study of the formulation, which may serve as supporting literature for future studies and to maintain standard quality of the formulation

## MATERIALS AND METHODS

### 1. Collection and authentication of raw drugs

**Table 1** Plant and part used

Drug	Latin name	Part used	Proportion
<i>Haritaki</i>	<i>Terminalia chebula</i> Retz.	Pericarp	1 Part
<i>Bibhitaki</i>	<i>Terminalia bellerica</i> Roxb.	Pericarp	1 Part
<i>Amalaki</i>	<i>Emblica officinalis</i> Gaertn.	Pericarp	1 Part

2. The formulation composition of *Triphala eye* drop was obtained from Pharmacy of Rishikul Campus Uttarakhand *Ayurveda* University, Dehradun. The API standards were used for pharmacological authentication of *Amalaki*, *Bibhitaki*, *Haritaki*, based on the morphological features, organoleptic characters and powder microscopy of individual drugs.

3. Method of preparation of *Triphala eye* drops:

4. Dried raw materials in equal proportions [Table no-1 materials] were crushed to prepare coarse powder separately and mixed with 8 parts of water in a stainless steel container. Continuous mild heat was applied until it was reduced to one fourth of its initial quantity. During heating process, continuous stirring was done to facilitate the evaporation and avoid any deterioration due to burning of materials. After a desirable reduction in volume was achieved, was filtered through filter paper and collected into a separate vessel.



### Analytical study

Prepared final product i.e., *Triphala* eye drop was analysed by employing various analytical parameters.

### Physical characterization description or organoleptic study

Characteristics for various sensory characters like appearance, colour, taste, odour etc. and was carefully noted down.

**Table 2** Organoleptic study

Physical characterisation description	
Appearance	Liquid
Colour	Light brown
Odour	Characteristic
Taste	Bitter

### pH value

pH was determined by using Digital pH meter. One gram of ointment was dissolved in 100 ml of distilled water and stored for 2 hours and the measurement of pH was 4.4 which is weakly acidic.

*Triphala* eye drop was further subjected to Thin Layer Chromatography (TLC) study

### Sterility Test

Sterility test was done by the method mentioned under IP 2007, Vol-2. A result shows that the drug was sterile.

### TLC Profile

Instrument used was silica plate. The stationary phase used was silica gel G60F254 and mobile phase was Toluene, ethyl acetate, formic acid (6.5:3:0.5). The plate was visualized under iodine vapours,  $R_f$  value were recorded 0.78, 0.82, 0.88.

### TLC TEST REPORT



**Fig 1** TLC

### Clarity test

Clarity test was done by in-house method; it showed that formulation was turbid. It may be useful to determine whether such elements as variables, events, outcomes, and alternatives are sufficiently well defined to make the decision at hand.

### RESULTS AND DISCUSSION

Pharmaceutical Analysis and Organoleptic evaluation was performed on finished product. UV rays were used for sterilisation of eye drops in chamber. Thin Layer Chromatography study (TLC) showed  $R_f$  values 0.78, 0.82 and 0.88 which may be responsible for expression of its pharmacological and clinical actions.



**Fig 2** Triphala



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