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Effect of Nimba - Lodhra Aschotana (Eye drops) in Pittaja Abhishyanda w.s.r. Bacterial Conjunctivitis- A single case study.

Dr. Swathy S[1*], Dr. Gavimath Shivanand[2], Dr. Bharath R[3], Dr Aishwarya K[4]
[1*]Final Year Pg Scholar, Department Of Pg Studies In Shalakya Tantra, Jss Ayurveda Medical College And Hospital,Mysuru.
[2]Professor And Hod Department Of Pg Studies In Shalakya Tantra, Jss Ayurveda Medical College And Hospital, Mysuru.
[3]Second Year Pg Scholar, Department Of Pg Studies In Shalakya Tantra, Jss Ayurveda Medical College And Hospital, Mysuru
[4]Final Year Pg Scholar, Department Of Pg Studies In Shalakya Tantra, Jss Ayurveda Medical College And Hospital, Mysuru.

Abstract

Background: *Abhishyanda (Conjunctivitis) is a prominent ocular disease described in Ayurveda, characterized by inflammation of the conjunctiva with symptoms such as redness (Raga), burning sensation (Daha), and mucoid discharge (Srava) etc. Bacterial conjunctivitis aligns with Pittaja Abhishyanda, primarily involving Pitta dosha vitiation due to etiological factors (Nidana) like exposure to Rajas (dust), Dhuma (smoke).*

Objective: *This article presents a detailed clinical case of Pittaja Abhishyanda (Bacterial Conjunctivitis) with its effective management through classical Ayurveda principles including Nidana Parivarjana (avoidance of causative factors) and application of Nimba Lodhra Aschotana. Nimba (Azadirachta indica) and Lodhra (Symplocos racemosa) classical herbal Eye Drops.*

Case-Summary: *A 22-year-old female presented with acute-onset of Raga (redness), Daha (burning sensation), Srava (mucoid discharge), and Prakasha asahishnuta (photophobia) in the right eye, Aggravated by exposure to bright sunlight and dust. Slit lamp examination reveals conjunctival congestion and mucopurulent discharge. Conjunctival swab confirmed Bacterial infection. Treatment comprised Nimba Lodhra eye drops (Aschotana).*

Results: *At the end of 14 days of Ayurveda treatment, her symptoms are alleviated and Post-treatment Conjunctival swab evaluation showed No organism in right eye.*

Conclusion: *This case report highlights the effective management of bacterial Conjunctivitis by Nimba-lodhra eye drop which showed significant result. This formulation shows promising result to treat Bacterial conjunctivitis, which is cost effective without any adverse effect in the era of antibiotic resistance. There is a need to establish the standardized result in large scale population.*

Keywords- *Pittaja Abhishyanda, Bacterial conjunctivitis, Ayurveda, Nimba-Lodhra.*

INTRODUCTION

Abhishyanda (Conjunctivitis) is categorized as a Sarvagata Netra Roga (disease affecting the entire eye). Abhishyanda is said to be the root cause of Sarva netraroga. It is one of the Aupasargika Vyadhi(Contagious disease)[1]. There are 4 types of Abhishyanda, among which Pittaja Abhishyanda can be correlated with bacterial conjunctivitis.The clinical presentation of Pittaja Abhishyanda is Daha (burning sensation), Raga (redness), Shopha (edema of eyelid), Ashru (lacrimation).[2]

Inflammation of the conjunctiva is known as Conjunctivitis. It is caused by bacteria such as staphylococcus aureus (commonest), Haemophilus aegyptius, Haemophilus Influenzae etc and Viruses such as Adeno Virus, Herpes simplex virus etc[3]. It is contagious according to Ayurveda and modern texts as well. Being transmitted directly by discharge, conjunctiva may get infected from three sources that is exogenous, local surrounding structures and endogenous. Symptoms include pain, foreign body sensation, grittiness, redness of sudden on set with mild photophobia, muco-purulent discharge, matting of lid margins during sleep, slight blurring of vision due to mucous flakes in front of cornea, coloured halos due to prismatic effect of mucous present on cornea.[4]

Complications include Superficial punctate epitheliopathy, Marginal corneal ulceration, Superficial keratitis, Blepharitis and Dacryocystitis[5] Generalised treatment for treating Abhishyanda includes Langhana (fasting), Aschotana, Seka (procedure of pouring of medicated liquid over the closed eye), Lepa (application of medicated paste over the eyelids), Anjana (application of medicinal collyrium). Aschotana is first line of treatment modality in all ophthalmic diseases[6]. In Modern medicine, NSAID, Steroid eye

drop, broad-spectrum antibiotics are commonly prescribed to speed up recovery[7], prevent complications, stop the spread of infection. However, rising antibiotic resistance, high costs, and side effects highlight the need for alternative treatments for infectious conditions, hence in this study Nimba lodra Aschotana procedure has been selected for the treatment of Pittaja Abhishyanda[8].

MATERIALS AND METHODS

Patient History:

22-year-old female, visited to Shalakya O.P.D of JSS Ayurveda Hospital, Mysuru.

- ❖ Chief complaints: Redness, Burning sensation and pain in right eye since 2 days
- ❖ Associated Symptoms- Swollen lower eyelid, sticky discharge in eye, sensitivity to light on seeing bright light and foreign body sensation since 2 days
- ❖ History of Present Illness - Patient was apparently normal before two days suddenly she started experiencing redness, burning sensation, and pain in right eye associated with mucoid discharge, swelling of lower eyelid and matting of eyelashes during early morning hours along with sensitivity to bright sunlight and feeling of foreign body sensation in right eye. Patient gets relief on washing eyes with warm water but aggravates on exposure to bright light and dust.
- ❖ Past History: Not k/c/o DM, HTN and other infectious diseases.
- ❖ Family History: H/o conjunctivitis to her nephew 5 days earlier.
- ❖ General Examination: Nothing significance.

Ocular Examination

	OD	OS
EYEBROWS	NAD	NAD
EYELIDS	Swelling of lower eyelid	NAD
EYELASHES	NAD	NAD
BULBAR CONJUNCTIVA	Congestion ++	NAD
UPPER PALPEBRAL CONJUNCTIVA	Congestion ++	NAD
LOWER PALPEBRAL CONJUNCTIVA	Congestion ++	NAD
CONJUNCTIVA OF FORNIX	Mucopurulent discharge	NAD
CORNEA	Size and Shape: Normal Transparency: Transparent Sheen: Present	Size and Shape: Normal Transparency: Transparent Sheen: Present
SCLERA	NAD	NAD
ANTERIOR CHAMBER	Depth: Normal Content: Clear	Depth: Normal Content: Clear
PUPIL	RRR	RRR

	OD	OD with Glasses	OS	OS with Glasses	OU	OU with Glasses
DV	6/6p	6/6	6/9	6/6	6/6p	6/6
NV	N6	-	N6	-	N6	-

Nidana Panchaka of Pittaja Abhishyanda.

Nidana Panchaka	Modern Correlate
Nidana: , Sankramika, Raja Dhooma Vihara	Exogenous irritants/pathogens

Nidana Panchaka	**Modern Correlate**
Purvarupa: Raga	Prodromal symptoms: Redness
Rupa (Symptoms): Daha, Srava, Sangharsha, Prakasha Asahisnutha, Shotha.	Burning sensation, mucoid discharge, foreign body sensation, photophobia, mild lower lid edema
Samprapti (Pathogenesis) Nidana – Sankramika, raja,dhooma vihara ↓ Pitta dosha Prakopa ↓ Khavaigunya in Netra ↓ Vitiated Pitta dosha reaches Netra and takes stanasamshraya in Netra ↓ netravahasrotosyandana ↓ **Pittaja Abhishyanda**	1. Vascular Response - Congestion and increase permeability. 2. Cellular response – exudation of inflammatory cells 3. Conjunctival tissue response – conjunctiva becomes edematous and increase in the number of mucin – secreting goblet cells. 4. Conjunctival discharge – consist of tears, mucus, inflammatory cells and desquamated epithelial cells. **Bacterial Infective conjunctivitis**

Diagnosis: Pittaja Abhishyanda (Bacterial conjunctivitis)

Treatment[9]

Nimba Lodhra eye drops was adviced to patient for 14 days and adviced to instill 2 drops 6 times a day with an interval of 2 hours to the affected eye.

Nidana parivarjana: Avoid dust exposure and maintain hygiene (washing hands regularly, avoid touching face and eyes).

Result: Subjective Criteria[10]

Parameter	**Before Treatment**	**After Treatment**
Daha (Burning Sensation)	Grade 2	Grade 0
Srava (Mucoid Discharge)	Grade 2	Grade 0
Raga (Hyperemia)	Grade 3	Grade 0
Shotha (Swelling of eyelid)	Grade 1	Grade 0
Toda (Pain)	Grade 2	Grade 0
Sangharsha (Foreign Body Sensation)	Grade 2	Grade 0

Parameter	Before Treatment	After Treatment
Prakasha Asahishnuta (Photophobia)	Grade 2	Grade 0

Investigations (Objective Criteria)

- **Conjunctival Swab (Gram Stain)**

Before treatment– Bacterial organism seen in Right Eye
Pus Cells, neutrophils cells, Epithelial cells seen in Right Eye
After Treatment- No Organism and NO cells seen
Patient had remarkable relief from her symptoms with a period of 14 days of intervention.

DISCUSSION

In this case study, the patient had redness (Raga), burning sensation (Daha), swelling of the lower eyelid (Shotha), discharge (Srava), foreign body sensation (Sangharsha), and sensitivity to light (Prakasha asahishnuta). Conjunctival swab analysis revealed the presence of bacterial pathogens and inflammatory cells, so the case was diagnosed as Pittaja Abhishyanda and patient was prescribed with Nimba–Lodhra eye drops for 14 days. By the end of treatment, the symptoms had reduced, and conjunctival swab analysis showed no organisms and no inflammatory cells.

Nimba –Lodhra eye drops is aqueous extract of Nimba and Lodhra, incorporated into a sterile isotonic ophthalmic base which promotes better delivery of drug and its absorption. Azadirachta indica (Nimba) is Sheeta Veerya (cold potency), Krimihara (the property that destroy pathogens), Vranahara karma (wound healing) and Pitta Kaphahara property[10] which serves to alleviate symptoms of Pittaja Abhishyanda and destroy pathogens. Nimba by its dahashamaka properties acts to relieve burning sensation, puyashoshaka properties aid in drying up pus. The anti-inflammatory property of Nimba contains important phyto- chemicals Azadiractin, Salannin, Nimbin, Nimbolin A, Gedunin they inhibit the growth of Staphylococcus aureus and Escherichia coli by suppressing pro-inflammatory cytokines, damaging bacterial cell walls and membranes[11]. Neem extracts containing these phytochemicals have antibacterial property efficacy comparable to standard antibiotics against bacteria like Staphylococcus aureus, which is frequently implicated in bacterial conjunctivitis.[12]

Lodhra (Symplocos racemosa), it is Sheetavirya (cold potency), Pitta Kaphahara (helps balance Pitta and Kapha doshas), Chakshushya (drug beneficial for eyes). The kashaya rasa (astringent taste) which provides several therapeutic actions such as Vrana-ropana (wound healing), Dosha samshamana (pacifying morbid doshas), Stambhana (stopping excess bodily discharge), Shotahara (relieves edema)[13]. The phytoconstituents of Lodhra are Gallic acid, Loturine, Acetate, n acetate, Betulinic acid and its rich in alkaloids like loturine and flavonoids[14].The extract of Lodhra exhibits antibacterial activity against Staphylococcus aureus, Escherichia coli and Streptococcus pneumonia organisms. Flavonoids and tannins disrupt bacterial cell walls and inhibit key bacterial enzymes, interfering with quorum sensing and reducing bacterial virulence making it harder for bacteria to form biofilms and cause persistent infection[15].

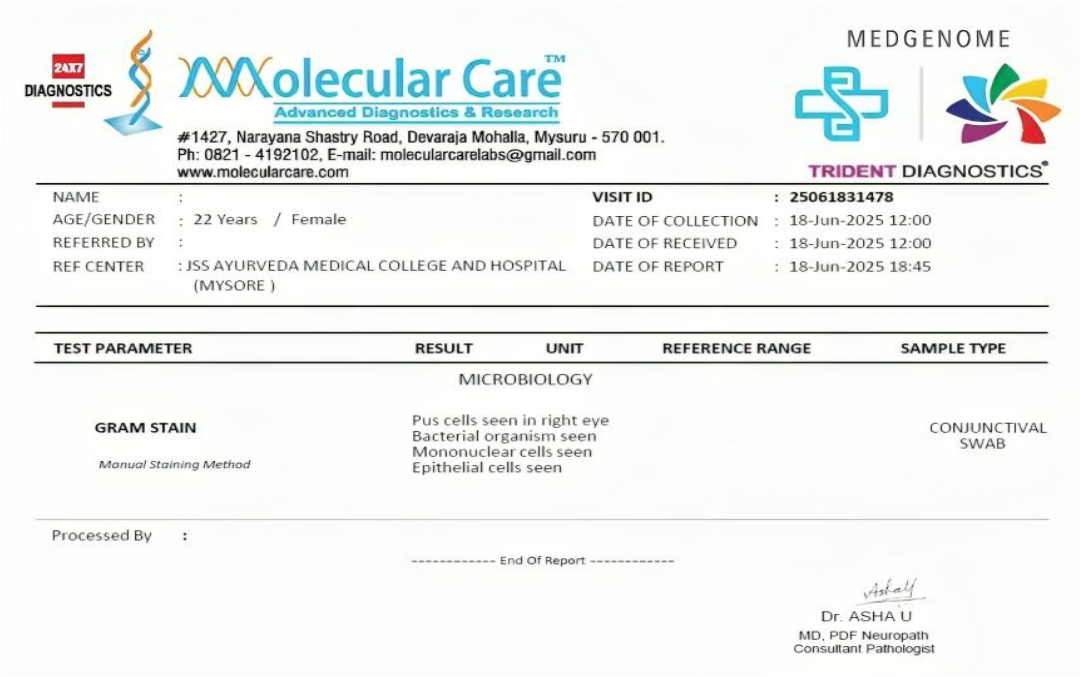
Phenolic compounds such as Gallic acid and Betulinic acid damage the bacterial membranes by generating reactive oxygen species, further weakening the bacteria[16]. Alkaloids such as loturine exhibit direct antimicrobial properties by inhibiting cell proliferation and promoting bacterial cell death. These compounds help constrict blood vessels, and facilitating damaged epithelial tissue healing promoting faster recovery and soothing effect[17]. When used in the form of aqueous extract, Nimba Lodhra medicated eye drop is absorbed directly through conjunctiva into the ocular circulation. This localized delivery helps heal the conjunctival tissue, redness inflammation, and counteracts infection caused by pathogens.

CONCLUSION

Any Inflammatory condition of conjunctiva should be treated immediately. This single case study has shown significant results of the drug NIMBA LODHRA eye drop in treating Bacterial conjunctivitis hence this formulation was selected which is cost effective without any adverse effect in the era of antibiotic resistance. There is a need to establish the standardized result in large scale population.

BEFORE TREATMENT AFTER TREATMENT

BEFORE TREATMENT



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MEDGENOME
TRIDENT DIAGNOSTICS

NAME	:	VISIT ID	: 25061831478
AGE/GENDER	: 22 Years / Female	DATE OF COLLECTION	: 18-Jun-2025 12:00
REFERRED BY	:	DATE OF RECEIVED	: 18-Jun-2025 12:00
REF CENTER	: JSS AYURVEDA MEDICAL COLLEGE AND HOSPITAL (MYSORE)	DATE OF REPORT	: 18-Jun-2025 18:45

TEST PARAMETER	RESULT	UNIT	REFERENCE RANGE	SAMPLE TYPE
MICROBIOLOGY				
GRAM STAIN *Manual Staining Method*	Pus cells seen in right eye Bacterial organism seen Mononuclear cells seen Epithelial cells seen			CONJUNCTIVAL SWAB

Processed By :

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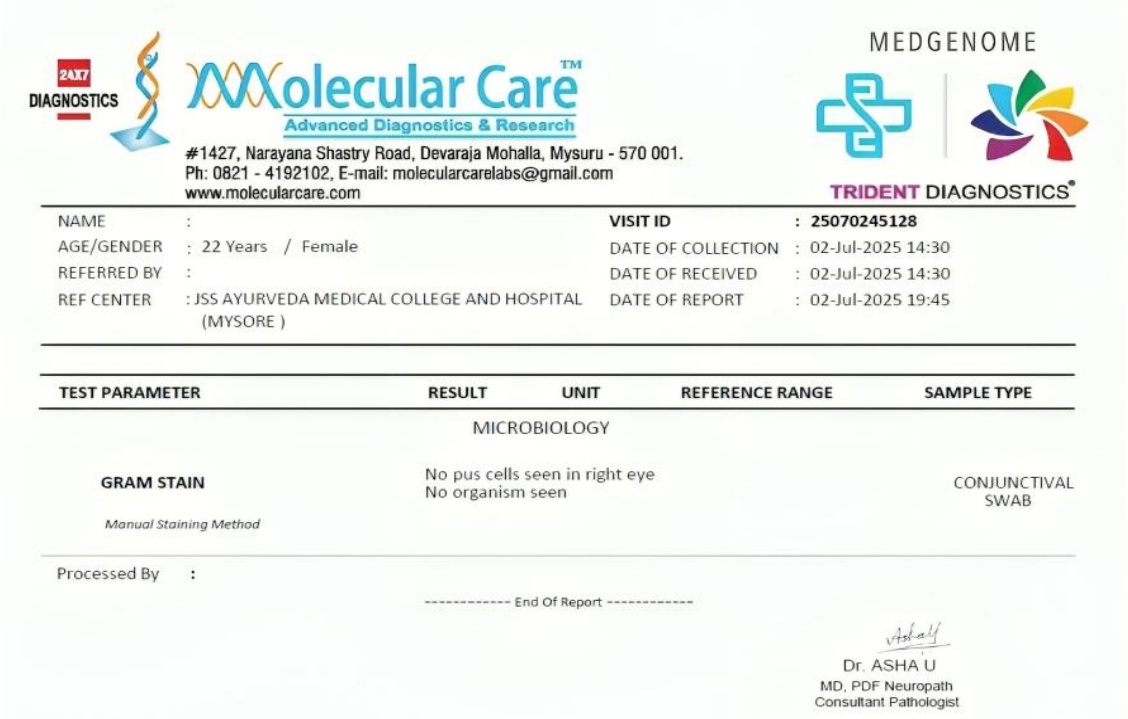
Dr. ASHA U
MD, PDF Neuropath
Consultant Pathologist

AFTER TREATMENT



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MEDGENOME
TRIDENT DIAGNOSTICS

NAME	:	VISIT ID	: 25070245128
AGE/GENDER	: 22 Years / Female	DATE OF COLLECTION	: 02-Jul-2025 14:30
REFERRED BY	:	DATE OF RECEIVED	: 02-Jul-2025 14:30
REF CENTER	: JSS AYURVEDA MEDICAL COLLEGE AND HOSPITAL (MYSORE)	DATE OF REPORT	: 02-Jul-2025 19:45

TEST PARAMETER	RESULT	UNIT	REFERENCE RANGE	SAMPLE TYPE
MICROBIOLOGY				
GRAM STAIN *Manual Staining Method*	No pus cells seen in right eye No organism seen			CONJUNCTIVAL SWAB

Processed By :

---------- End Of Report ----------

Dr. ASHA U
MD, PDF Neuropath
Consultant Pathologist

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