

## **AYURVEDIC MANAGEMENT OF DACRYOCYSTITIS TO PREVENT SURGICAL INTERVENTION.**

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### **INTRODUCTION**

Dacryocystitis (Puyalasa, stagnation of pus in Ayurveda) a lacrimal system infection manifests with epiphora (Ashrupata), pain (Savedana), redness, orbital swelling (Aadhmaya) and discharge of pus (Puya pooti srava) conditions manifesting on the inner canthus of the eye (Kaneenika sandhija).<sup>[1]</sup>

Ayurvedic medicinal management is preferred than surgical intervention. Surgical costs, complications like bleeding, fistula formation, persistent watery discharge, recurrence of epiphora with infection are considerations to consider holistic management in

dacryocystitis.<sup>[2]</sup> Acute to chronic stages of dacryocystitis are managed by enhancing tissue immunity, controlling infection and preventing recurrences.

Bidalaka<sup>[3]</sup> is an application of medicinal paste on closed eyelids. This is designed considering anatomical, physiological and pathological variations and pH, penetrant concentration, hydration, temperature, absorption and metabolism of the medicaments in dacryocystitis achieves maximum tissue absorption. Kriyakalpa enhances immunity, prevents recurrence, spread of infection and decreases all symptoms.<sup>[4]</sup>

Dacryocystitis questionnaire was designed on similar parameters as Ocular Surface Disease Index (OSDI) to collect data about sex prevalence, socio-economic-educational status, factors impacting healing, recurrence and microbial prevalence, management, dietary regulations and lifestyle modifications. Ayurveda describes various factors detrimental to faster healing, to be avoided, which are all verified by several research conducted today.

**Table 1: Factors detrimental to healing as per Ayurveda<sup>[5]</sup>**

Vihaara /ahara	Habits / activities	Research
Divaswapna <sup>[6]</sup> Raatri jaagarana <sup>[7]</sup>	Wound healing influenced by sleep pattern. Night shifts, sleeplessness, Excessive sleep	Circadian type, chronic fatigue and serum IgM in the shift workers of an industrial organization <sup>[8]</sup>
Maireya, Arishta, Asava, Seedhu, Sura vikara <sup>[9]</sup> Alcoholism	Stress, social support & health-related behavior: smoking, alcohol consumption	Binge drinkers are slower to heal from their wounds. <sup>[10,11]</sup> Chronic Alcohol Exposure Renders Epithelial Cells Vulnerable to Bacterial Infection. <sup>[12]</sup>
Vata - Atapa - Raja - Dhumaati sevana <sup>[7]</sup>	Exposure to excessive sunlight, dust, smoke	Smoking and wound healing <sup>[13]</sup>
Ati -Vishama - Viruddha bhojana	Excessive nutrition, obesity	Oxygen, oxidants and antioxidants in wound healing. <sup>[14]</sup>
Eershya-Krodha-bhaya-shoka - Chinta	Stress, jealousy, anger, fear, sorrow, worries.	Stress and Wound Healing. <sup>[15]</sup> Factors affecting wound healing <sup>[16]</sup>
Upavasa	Nutrition -excessive or less	Nutrition for optimum wound healing. <sup>[17]</sup> Nutritional support in wound healing. <sup>[18]</sup> The importance of patient's nutritional status in wound healing. <sup>[19]</sup>
Vyayama	Exercise	Exercise accelerates wound healing among healthy older adults: a preliminary investigation. <sup>[20]</sup>
Sheeta - Vata sevana	Exposure to vagaries of climate	Impacts on health of climate extremes <sup>[21]</sup>

## Methods

### Selection criteria

30 Patients, aged 45-55 years, presenting epiphora, painful or painless orbital cellulitis, redness, small pointed ulcer, frequent mucopurulent to watery discharge, diagnosed as dacryocystitis (chronic to subacute), who gave informed consent were selected.

Patients on systemic or topical antibiotics, post traumatic / surgical / radiation induced nasolacrimal duct obstruction (NLDO)secondary dacryocystitis, on medication for diabetes, cardiovascular, autoimmune conditions, CKD, HIV, high myopia, retinal detachment, glaucoma were excluded.

**Diagnostic criteria****Subjective**

Grading of symptoms (before-after therapy, follow up) of dacryocystitis patients.

**Grade 0- 1:** Absence of pain, swelling, ulcer, discharge. When Ayurvedic eye drops are instilled in eyes, patient feels it in nose and mouth.

**Grade 2:** Presence of infrequent watery discharge.

**Grade 3:** Presence of big swelling, purulent discharge on checking lacrimal duct patency, painful, red ulcer. Epiphora troubling patient, enhanced swelling, pain, redness associated with recurrence. Anjana applied in specific eye not sensed in nose and mouth needs further treatment.

**Grade 4:** Extensive infection, inflammation manifesting orbital swollen, acute pain, redness. Anjana applied in specific eye not sensed in nose and mouth. Suggests failure of the therapy.

**Duration of trail**

60 days therapy and 60 days follow up.

**Management protocol** Oil extracted from seeds of *Ricinus communis* (Eranda taila) 10 to 20 ml, with warm water, bed time, day one, every fortnight.

- ❖ Fine powder of *Terminalia chebula* fruit(hareetaki)10 gms, fried in 2 ml ghee mixed with water (2 ml) and honey (4ml) ground well, applied around eyes, on all 60 days
- ❖ *Oryza sativa* (shastika shali) baked and mixed with few drops of eranda taila is applied as pad twice a day in acute stage.
- ❖ *Zingbera officianlis* root powder (Nagara) and rock salt (saindava lavan) mixture is applied as lacrimal massage, thrice a day for 6 weeks in chronic stage.
- ❖ A multidrug collyrium (Narikelanjana) application once a week.

**OBSERVATIONS AND RESULTS**

Grading of results based on Schirmer tear test scale and grading of symptoms.

**Grade 1:** No need for any more therapy and no recurrence of any symptoms

**Grade 2:** Therapy needs to be continued for better results

**Grade 3:** Recurrence - Requires repeated therapy

**Grade 4:** Total failure - Surgery only option

30 Patients who attended ophthalmology unit between 2012-2013, were considered in this research. All patients were ladies, 70% were above 50 years, 75% were of poor socio economic status, 60% had only high school education, 90% presented with epiphora.

Epiphora recorded a descending trend on Schirmer's test scale. Over all symptomatic grading along with Schirmer's test scale shows promising reduction in grade 4 from 36.66% to 3.33% suggesting reduction in surgical intervention. Patients belonging to Grade 1 with nil or less symptoms increased from 0% to 56.66%.

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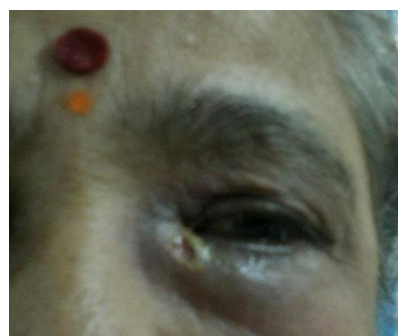
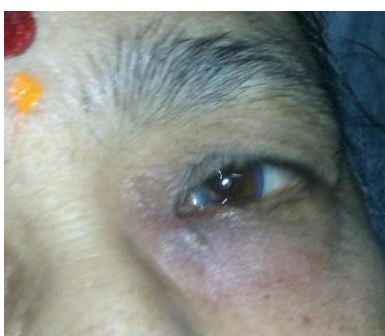
*Conflict of Interest: None declared*

Before treatment



**Pic 1**

During treatment



**Pic 2 & 3**

After treatment



**Pic4**

## DISCUSSION

This medicinal management of dacryocystitis points towards two major issues, viz Ayurveda to reduce repeated infection and also to avoid surgical intervention.

Administration of castor oil enhances tissue immunity and is also anti microbial.<sup>[22,23]</sup>

Epiphora, major annoying symptom, disturbing vision, embarrassing the patient socially and functionally which showed satisfactory reduction was an important aspect recorded.

Castor oil (ricinole), accepted by Food and Drug Administration (FDA) as safe and effective, stimulant laxative, topical application exerts remarkable analgesic and anti-inflammatory.<sup>[24,25,26]</sup> Ricinoleic acid in castor oil prevents the growth of numerous species of viruses, bacteria, yeasts and molds.<sup>[27]</sup> The kriyakalpa bidalaka is (application of herbal paste on eyelids) recommended in symptoms like - burning sensation, itching, swelling of lids and in all acute stages to mitigate early symptoms.<sup>[28,29]</sup> Bidalaka is made applying a mixture of superfine Terminalia chebula (hareetaki)<sup>[30]</sup> powder fried in ghee along with honey and water.

Nutritional and hygienic factors along with this management play a pivotal role.

Research proves the faster healing and reduction of microbial count with these medicaments.<sup>[31-35]</sup>

Sample size is small and inconclusive but confirms previous studies regarding the above issues.

## Conclusion and Scope for future work

Generating large scale data using simple non validated questionnaire with regard to diet, occupational hazards, lifestyle, socio economic strata which has huge impact on recurrence, preventive aspects, faster healing are collected for future non surgical intervention.

Application of validated questionnaire can help conclude several issues like if holistic management can be replacing surgery in dacryocystitis and such other surgical conditions needs to be focus of research.

Prevention of surgery, promoting vision and most importantly getting rid of the irritating symptom of epiphora has been achieved by these measures and ensuring success in a large number is a necessary to replace surgical intervention.

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