



International Journal of Homoeopathic Sciences

E-ISSN: 2616-4493
P-ISSN: 2616-4485
www.homoeopathicjournal.com
IJHS 2025; 9(1): 88-91
Received: 12-10-2024
Accepted: 18-11-2024

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A clinical comparative study to evaluate the efficacy of HECLA lava 3x and 6x potency in disket form for management of gingivitis

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DOI: <https://doi.org/10.33545/26164485.2025.v9.i1b.1338>

Abstract

Gingivitis is a non-destructive disease that causes inflammation of the gums. The most common form of gingivitis, and the most common form of periodontal disease overall, is in response to bacterial plaque that is attached to tooth surfaces, termed plaque-induced gingivitis. Gingivitis is reversible with good oral hygiene; however, without treatment, gingivitis can progress to periodontitis, in which the inflammation of the gums results in tissue destruction and bone resorption around the teeth. Periodontitis can ultimately lead to tooth loss.

Keywords: Gingival disease, inflammation, periodontitis, gingivitis, hecla lava

Introduction

Gingivitis is an inflammatory condition of gingival tissue, most commonly caused by bacterial infection. The condition is restricted to soft tissue area of gingival epithelium in connective tissue.

Clinically, the gingival tissues are characterized by swelling, redness, tenderness, a shiny surface and bleeding upon gentle probing.

Hecla lava is used for treating abscesses of gums, they are from decayed teeth. It is also a great remedy for gingivitis, fistula of gums and furuncle on the gums with aching gums after tooth extraction.

Aim

To demonstrate the efficacy of Hecla lava on 3x and 6x potency in diskets form in management of gingivitis

Objectives

1. To demonstrate efficacy of Hecla Lava in treating gingivitis through gingival index system
2. To demonstrate efficacy of Hecla Lava 3x and 6x potency in diskets form in management of gingivitis.

Etiology

Gingivitis is caused by the microbial plaque deposits located in or close to the gingival sulcus.

Etiology of gingivitis include species of Streptococcus, Fusobacterium, Actinomyces, Veillonella, and Treponema. Bacteroides, Capnocytophaga, and Eikenella are also potentially linked to the etiology of the disease.

Review of Literature

Definition

Gingivitis is an inflammatory condition of the gingival tissue most commonly caused by bacterial infection. Unlike periodontitis, there is no attachment loss and therefore no migration of the junctional epithelium.

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Fig 1: Based on the etiology, gingivitis can be classified into different types

Plaque induced gingivitis

This is the most common cause of gingivitis. Plaque is a thin film that forms on the tooth surface due to poor oral hygiene. If not regularly removed, it can harden up and form calculus. As plaque harbors a large number of bacteria, inflammation can occur in the gingival tissue.

Nutritional gingivitis

This may occur due to a deficiency of vitamin C. It has been found that a modern lifestyle with the intake of an increased amount of refined carbohydrates and an increased ratio of omega-6 to omega-3 fatty acids can promote the inflammatory process.

Hormonal gingivitis: During pregnancy, there are not only

changes in hormone levels but also a greater predisposition to dilating blood vessels. These factors contribute to an exaggerated inflammatory response by the gingival tissues even to a minor quantity of plaque accumulation

Drug-induced gingivitis

Various drugs used for systemic conditions can cause gingivitis as a side effect such as phenytoin (used for epileptic seizures), calcium channel blockers (used for angina, high blood pressure), anticoagulants, and fibrinolytic agents, oral contraceptive agents, protease inhibitors, vitamin A and analogs

Factors affecting gingivitis

Hormonal changes, Stress, Poor nutrition, Certain medications:

- Phenytoin.
- Calcium channel blockers.
- Cyclosporine.

Diabetes mellitus, immune dysfunction, local trauma, dental caries, tooth crowding with overlapping.

Pathophysiology

Pathophysiologically, gingivitis has been divided into initial, early, and established stages, and periodontitis has been indicated as the advanced stage.

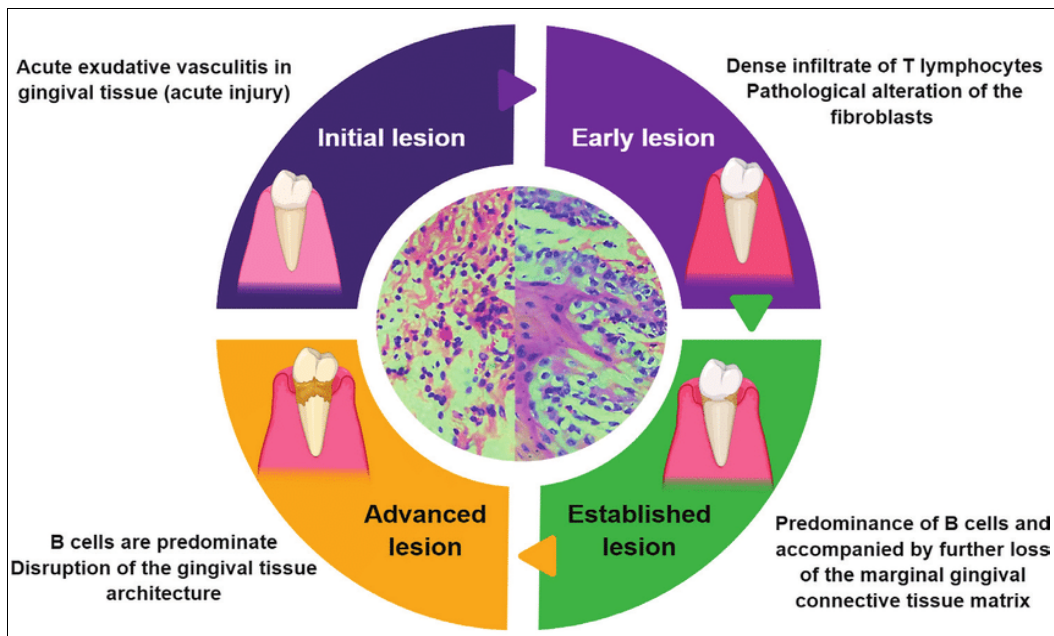


Fig 2: Show Pathophysiologically

The gingival swelling can be graded into four types

- **Grade 0:** No signs of gingival swelling.
- **Grade I:** Swelling that is confined to the interdental papilla region.
- **Grade II:** Swelling involving both the interdental papilla and the marginal gingiva.
- **Grade III:** Swelling that covers three-fourths or more of the crown structure.

1. Normal gingiva
2. Mild inflammation-a slight color change, slight edema. No bleeding on probing
3. Moderate inflammation-redness, edema, and glazing. Bleeding on probing.
4. Severe inflammation-marked redness and edema. Ulceration. Tendency to spontaneous bleeding

Clinical features

- Bad breath that doesn't go away, even after brushing.
- Gums that bleed easily, particularly when you brush

The Gingival Index (GI)

Criteria for the gingival index system

your teeth.

- Red, swollen gums.
- Sensitivity to hot or cold foods.
- Tenderness or pain when you chew food.

Treatment

The prime objective of treating gingivitis is to reduce inflammation. This is achieved by the use of different instruments to remove dental plaque deposits. Gingivitis, in its initial stages, can be easily managed if the patient starts following oral hygiene protocol, which includes regular tooth brushing with an appropriate technique and interproximal hygiene, such as dental flossing, or the use of interproximal brushes. The removal of plaque and calculus is also professionally achieved by scaling and root planning according to the severity of the condition.

Complications of gingivitis

- Abscess or infection in the gingiva or jaw bone
- Periodontitis-a more serious condition that can lead to loss of bone and teeth
- Recurrent gingivitis
- Trench mouth, where bacterial infection leads to ulceration of the gums

General management

Gingivitis can be prevented through regular oral hygiene that includes daily brushing and flossing. Hydrogen peroxide, saline, alcohol, or chlorhexidine mouthwashes may also be employed. The use of oscillation-type brushes might reduce the risk of gingivitis compared to manual brushing.

Homoeopathic management

Hecla lava

Hecla lava is indicated for conditions of the mouth where there is severe toothache with necrosis of jawbones suited to the persons of syphilitic constitution, and there is swelling of jawbones from injury. These individuals experiences dryness of mouth, with a metallic taste, like having a copper coin in mouth. This remedy is used for treating abscesses of gums, they are from decayed teeth. It is also a great remedy for gingivitis, fistula of gums and furuncle on the gums with aching gums after tooth extraction.

Following are some commonly used homeopathic remedies for gum disease

Calendula

This remedy can help the body overcome inflammation, infection, and abscess. It can be taken internally in potentized form, or used as an herbal tincture. Applied to injured gums and areas around the teeth, the tincture can help reduce the chance of infection, and help the tissues heal after being cut or bruised.

Mercurius solubilis

A person with a tendency toward tender, bleeding, swollen gums and teeth that easily loosen and decay may benefit from this remedy. Offensive breath, excessive salivation, and swollen glands are other indications. Symptoms are worse at night, and the person is very sensitive to temperatures, both cold and hot.

Hepar sulph

This medicine is used in cases of pus formation in the gums, and painful and inflamed gums.

Silicea

This medicine helps to treat receding gums effectively and helps in the healing of infections of the gums.

Methodology

From the OPD and camps of MNR Homoeopathic hospital, 20 cases of gingivitis were identified. Next using the totality of symptoms of patients randomization was applied, where in 11 cases received of HECLA LAVA 6X and 9 cases of HECLA LAVA 3X prior to the treatment gingivitis was measured by using Gingival Index Scale then after for every 15 days measured on regular basis for 6 months.

Inclusion criteria

All age groups
Both genders.

Exclusion criteria

Pregnant ladies.
Lactating mothers.
Diseases with irreversible pathologies.

Statistical analysis

The results were to statistical analysis and hypothesis where tested using unpaired t test.

Hecla lava 3X

Table 1: Show Hecla lava 3X

Name	Score before treatment	Score after treatment	Difference
MR.R	2	2	0
MR.R	2	1	1
MR.S	2	1	1
MR.R	2	1	1
MR.R	2	2	0
MR.D	2	2	0
MR.D	2	2	0
MR.P	1	0	-1
MRS.Y	3	2	-1

3X-[0, 1, 1, 1, 0, 0, 0, -1, -1]

Mean =0.11

N₁=9

Standard deviation-0.78

Hecla lava 6X

Table 2: Show Hecla lava 6X

Name	Score before treatment	Score after treatment	Difference
MRS.B	2	1	-1
MR.S	2	1	-1
MRS.K	1	0	-1
MRS.A	2	1	-1
MRS.A	1	0	-1
MR.S	1	0	-1
MR.S	2	1	-1
MR.A	1	0	-1
MR.Y	3	1	-2
MRS.P	1	0	-1
MR.S	2	1	-1

6X-[-1,-1,-1,-1,-1,-1,-2,-1,-1,-1]

Mean-0.91

N₂-11

Standard deviations-0.70

P-Value-0.0076 which is less than 0.01

This indicates a highly significant difference in the effectiveness of Hecla Lava 3x and 6x, with 6x resulting in a greater reduction in gingivitis grades.

Results of study

Table 3: Show Hecla lava 3X

Hecla lava 3X	Number of patients	%
Improved	1	11.1
Improving	4	44.4
Not improved	4	44.4

Table 4: Show Hecla lava 6X

Hecla lava 6X	Number of patients	%
Improved	5	45.45
Improving	6	54.54
Not improved	0	0

Discussion

A sample of minimum 20 cases will be selected based on inclusion and exclusion criteria.

The data will be collected and processed in clinical case sheet format.

All the details of the patient will be confidential

Plan for data analysis will be done by comparing the gingival index before and after administration of medicine.

Based on symptomatic totality on homoeopathic case taking 3x will be prescribed to 9 cases and 6x will be prescribed to 11 cases to know the efficacy of hecla lava in treating gingivitis and analysed with unpaired t test

Using hecla lava 3x, 4 patients did not improve and 4 patients were improving and 1 patient improved.

Using hecla lava 6x, 5 patients were improved and 6 were improving.

Hecla lava 6x showing significant improvement in treating gingivitis than hecla lava 3x which is shown through gingival index grading.

Conclusion

Gingivitis can have multiple origins and can be the manifestation of a wide range of systemic diseases. Gingival tissue inflammation is one of the most common lesions encountered in the clinical setting and may be the first symptom in many types of disease. Gingivitis may therefore have important diagnostic relevance, and it is vital for clinicians to be aware of its different possible causes to ensure a correct diagnosis and treatment.

Quality control and quality assurance

This study was done by sticking to the ethical guidelines given by ICMR. All the 20 patients have been selected with proper inclusive and exclusive criteria. The gingivitis was assessed before and after treatment by gingival index criteria scale. The study results were analysed by appropriate statistical tool i.e.; unpaired t-test. The medicine was procured from GMP certified pharmaceutical companies approved by institutional ethical committee and

is stored as per the rules of Indian Homoeopathic Pharmacopoeia.

Confidentiality

All the information collected in the study is kept strictly confidential and the identity of patient is not revealed as per the law.

Declaration by authors

Ethical Approval: Ethical clearance from the Institution and Ethical Committee was taken. Consent was also taken from the participant prior to the commencement of research.

Acknowledgement: I acknowledge Dr. G Rathna Kumari, Prof. Dept. of Homoeopathic Pharmacy, Dr. T Surekha, HOD, PSM Dept, Prof. Dr. P Venkateswar Rao, Principal, Prof. Dr. S Manilal, Director of MNR Homoeopathic medical college for constant support during the period of the research project.

Source of funding: None

Conflict of interest: The authors declare no conflict of interest.

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How to Cite This Article

Kumari GR, Sai GK. A clinical comparative study to evaluate the efficacy of HECLA lava 3x and 6x potency in disket form for management of gingivitis. *International Journal of Homoeopathic Sciences.* 2025;9(1):88-91.

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