

## Recurrent Herpes Labialis: A Case Report

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### ABSTRACT

Herpes labialis remains exceptionally prevailing and is one of the most common human viral infections across the globe. Recurrent herpes labialis usually starts from the preliminary viral infection by herpes simplex virus type 1 (HSV-1) which consequently exhibits with or without symptoms. Reactivation of this virus is started by psychosocial reasons such as anxiety, febrile surroundings, ultraviolet light vulnerability, or specific dietary insufficiency. This virus infection is also categorized by continuous transitions between chronic-latent and acute-recurrent phases, permitting the virus to opportunistically avoid immunity and permit the spread to other susceptible hosts concurrently. According to WHO, an approximate 3.7 billion people under age 50 (67%) have HSV-1 infection globally. In the United States of America (USA), HSV-1 affects 57% to 80% of adults, while in Asia, the numbers are essentially high for adults (75%) especially those from low socioeconomic standings, and children (50%) due to epidemiological shifts, showing decreased seroprevalence in the young cohorts. It has been reported that recurrent herpes labialis (RHL) affects about one-third of the population in the USA and presents as inflamed/painful oral lesions with conditional distress. Some patients usually encounter up to six episodes per year which can be troublesome for patients and their families.

**Key-Words:** Herpes labialis, WHO, Seroprevalence, Oral Lesions, Herpes Simplex Virus

### INTRODUCTION

Herpes labialis, also known as fever blisters or cold sores, is a recurrent herpes simplex infection that usually affects the lips or the adjacent skin. It is one of the most prevalent and clinically obvious viral diseases presenting as bothersome, large, painful, and disfiguring lesions interfering with social activity and causing psychological problems<sup>1</sup>. It is one of most common infective vesiculo-ulcerative oral lesions with distressing and debilitating characteristics worldwide. It is contagious for the previously uninfected individuals and those with compromised immune systems such as HIV-infected individuals and those undergoing chemotherapy. Herpes labialis infection constitutes a serious risk to the dental team in the form of herpes whitlow and herpes keratitis during the treatment of patients with active lesions in the absence of proper infection control practices. From initial manifestation to complete healing between 7-10 days, occasionally 14 days, it has five clinical stages: Prodromal, blister, weeping, scabbing, and healing<sup>2</sup>. The clinical diagnosis of herpes labialis is based on case-specific historical findings, characteristic clinical appearance, and the location of the lesions.

### CASE REPORT

A 24-year old patient (Figure 1) who is a student, visited the department of Oral Medicine and Radiology with the chief complaint of irregular teeth since 6years and want to get them corrected. Patient gives a history of fever 2weeks ago. Patient has no tobacco habits. Patient brushes once daily with toothbrush and toothpaste. On examination plaque score of ++ and calculus of++ was noted and there was angel's class 2 division I malocclusion and anterior deepbite. On seeing, on to the left vermilion border of lip numerous vesicles were noticed. On inspection, it revealed minute vesicles (Figure 2) of size 1-4mm, 6to7 in number they appear red in colour and were seen on left vermilion border with proper outline, had clear demarcation of the vesicles. On palpation, it reveals that the vesicles were tender, no bleeding on scraping, non fluctuant and hard in palpation revealing, it was in healing phase. There were few differential diagnosis suggested for the case, which includes: Recurrent Herpes Labialis, Herpes Simplex Virus Type 2 (HSV-2) Infection, Aphthous Stomatitis, Contact Dermatitis, Impetigo, Angular Cheilitis, Erythema Multiforme and Candidiasis. But on the basis of history of fever and the recurrent appearance of vesicles whenever the patient experiences fever revealed that he must be suffering from recurrent herpes labialis. The treatment was planned for the patient by giving Acyclovir 5% ointment, to be applied on affected sites for 1week and recalled for the checkup. Further, follow-up was done in 4 weeks. During this visit, he reported a significant decrease in the frequency and

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severity of outbreaks, attributing this improvement to adherence to the treatment.



**Fig 1:** Extraoral picture of patient



**Fig 2:** Represents minute vesicles seen on left side of vermilion border

## DISCUSSION

Herpes simplex virus is contracted from infected saliva or other body fluids after an incubation period of approximately 4-7 days. Close contact with infected individuals, such as in play groups or sexually active persons predisposes to infection. HSV-1 can cause oral or oropharyngeal infection usually via infection from saliva, and is most frequent & at a lower age in lower socioeconomic groups. HSV-2 can cause severe oropharyngeal infection usually via orogenital or oroanal sexual contact<sup>3</sup>. Herpes simplex virus anogenital infection is contracted from infected semen, saliva or other body fluids. HSV-1 genital infection is usually less common & less severe than HSV-2 infection. Patients with immune defects are liable to severe and/or protracted HSV infections. Physical contact with an infected individual is the typical route of HSV inoculation for a seronegative individual who has not been previously exposed to the virus or possibly for someone with a low titer of protective antibody to HSV. The virus binds to the cell surface epithelium via heparan sulfate, followed by the sequential activation of specific genes during the lytic phase of infection. These genes include immediate early (IE) and early (E) genes

coding for regulatory proteins and for DNA replication, and late (L) genes coding for structural proteins.<sup>4</sup> During latency no infectious virus is produced; there is expression of early, but not late, genes; and there is no free virus. No major histocompatibility (MHC) antigens are expressed, so there is no T-cell response during latency. Some 50% of primary HSV infections are subclinical.

### The main features of clinical primary disease are:

- A. The mouth or oropharynx is sore.
- B. A single episode of oral vesicles which may be widespread, and break down to leave oral ulcers. These are initially pin point lesions but fuse to produce irregular painful ulcers.
- C. Acute generalized marginal gingivitis.
- D. Cervical lymph nodes may be enlarged & tender. Usually, several nodes in anterior triangle of the neck – especially the jugulo digastric nodes – are enlarged often bilaterally. Posterior triangle & nodes elsewhere are not enlarged, unless there are systemic complications or lesions in other sites.
- E. There is no hepato-splenomegaly unless there are systemic complications or lesions elsewhere. There is sometimes fever and /or malaise<sup>5</sup>.
- F. Diagnosis is largely clinical.

### Laboratory Investigations Include:

- A. Culture –takes days to give result.
- B. Electron microscopy –is not always available.
- C. Polymerase chain reaction detection of HSV-DNA is sensitive & Rapid but expensive.
- D. Immuno detection – conventional enzyme linked immuno sorbent assays (ELISA) for serum antibodies have poor sensitivity & specificity. While newer assays based on IgG1 HSV glycol proteins are comparable with western blot assays.
- E. A rising titre of serum antibodies is confirmatory but only gives the diagnosis retrospectively.
- F. Smears for viral damaged cells –routinely used.

### Clinical Features

Most lesion appear on the vermilion border of lip and surrounding skin, they are grey or white vesicles which rupture quickly leaving small red ulcerations, sometimes with erythematous halo on lip covered by bluish crust on lips. Size from 1-3mm to 2cm rarely causes disfigurement.

**Symptoms:** In either location is preceded by the tingling, burning sensation, feeling of tautness, swelling or slight soreness with subsequent development of vesicle.

**Signs:** It is accompanied by edema at the site of lesion followed by formation of clusters of small vesicles.

**Healing:** They gradually heal within 6-10 days and leave no scar.

**Complications:** They can lead to extragenital lesions, CNS complications and vaginal fungal infection.

### Incidence

It stands as one of most common infective vesiculo-

ulcerative oral lesions with distressing and debilitating characteristics worldwide. Herpes labialis is a commonly occurring ailment with reported prevalence of 15-32.9%<sup>6,7</sup>. It constitutes the third and fourth most prevalent oral mucosal lesion in children and youth in the USA<sup>8</sup> and in the adult population in Slovenia. Herpes labialis has been reported to constitute 0.58% of oral mucosal lesions in patients visiting a dental school in Southern India.<sup>9</sup>

### Diagnosis

1. **History:** Past history of contact with the person with the recurrent herpes labialis is helpful in making diagnosis.
2. **Typical Clinical Feature:** It is based on clinical presentation. Prodromal symptoms followed by the eruption of vesicles and marginal gingivitis.
3. **HSV** can be identified from scrapings from the base of lesion sealed on glass by giemsa and papanicolaou stain. Cytology shows intranuclear inclusions and multinucleated giant cells.
4. **Antibody Titer:** Antibodies seen in 1 week and raise to maximum by 3 weeks. Dark fluorescent is helpful than the routine cytology.

### Treatment Modalities

Some modalities on the treatment of herpes labialis:

#### a. Antiviral agents

Oral antiviral agents such as acyclovir, valacyclovir, and famciclovir are effective in treating herpes labialis. They can reduce the length of episodes and healing time. However, the best timing and duration of treatment is still unknown.

#### b. Photodynamic therapy

Antimicrobial photodynamic therapy (aPDT) can reduce the time it takes for herpes labialis lesions to heal and doesn't cause resistance.

#### c. Low-level laser therapy

A systematic review found that low-level laser therapy is generally superior to conventional treatment or placebo. However, more studies are needed to determine its effectiveness reliably.

#### d. Side effects

Side effects of oral antiviral medications include headache and nausea. Side effects of zinc oxide and glycerin cream include burning and itching. Side effects of zinc sulfate gel include dryness and a feeling of tightness.

#### e. Combination therapy

A combination of oral valacyclovir and topical clobetasol therapy is one of the most effective treatments for reducing healing time of the herpes labialis.

## CONCLUSION

Herpetic infections represent a reactivation of the herpes simplex virus, which is highly infectious to patients, their families, dentists and staff members. The diagnosis of these conditions usually is based on case-specific historical findings, the characteristic clinical appearance and the location of the lesions. Dentists often treat patients with a history of recurrent herpetic infections. Until the herpetic lesions are completely healed, the dental team should use management strategies to prevent spread of the virus, ensure adequate nutrition and maintain appropriate oral hygiene practices.

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