

Herpes Simplex Labialis: The Possible Re-activation of Herpes Simplex Virus-1 (HSV-1) in a Patient with SARS CoV-2 Infection

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Abstract

Since the start of the coronavirus disease-19 (COVID-19) pandemic in late December 2019, in Wuhan, China, the severe acute respiratory syndrome coronavirus-2 (SARS CoV-2), the virus responsible for COVID-19 present with the classical presentation of respiratory as the name denote that may be fatal. However, there are reports of atypical manifestations in the majority of the patients. One of the atypical presentations is oral manifestations of SARS CoV-2 that may be due to the initial infection or reactivation of Herpes Simplex Virus-1 (HSV-1) or stress-related. Herein, we report a middle-aged man; who presents with vesicular lesions on the lip that were diagnosed clinically as herpes simplex labialis (cold sores), as confirmed by reverse transcription-polymerase chain reaction (rt-PCR) as SARS CoV-2 infected.

Keywords: Herpes Simplex Virus-1 (HSV-1), SARS CoV-2, COVID-19, Herpes Simplex Labialis.

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INTRODUCTION

The first case of coronavirus disease 2019 (COVID-19); was reported in Wuhan, Hubei Province, in late December 2019, followed by the emergence of other patients. On January 12, 2020, the World Health Organization (WHO) named the virus “Novel Coronavirus 2019 (2019-nCoV),” which can cause an acute respiratory disease [1, 2], later identified as severe acute respiratory syndrome coronavirus-2 (SARS CoV-2). On March 11, 2020, the WHO labeled the disease a global pandemic [3]. Since then, millions have been affected by the pandemic worldwide. The clinical features were initially; thought to be typically respiratory, but cases of atypical features; were surfaced then, indicating the non-respiratory characteristics of SARS CoV-2 infection, including the dermatologic one. Herein, we report a case of herpes labialis, diagnosed as SARS CoV-2 infected as confirmed by rt-PCR, with a possible association of HSV-1 re-activation secondary to SARS CoV-2.

CASE PRESENTATION

A 45 years old otherwise healthy male patient visited his family physician clinic in a primary care center with a history of headache, malaise, and burning sensation on his upper lip since last night. On detailed examination, no positive findings; were noted. The patient was given symptomatic treatment and discharged. After two days, he again walked in-clinic

with a history of fever, sore throat, and a solitary vesicle on his upper lip near the left commissure and a second vesicle over the same lip in the middle. On detailed history, the patient has recurrent episodes of herpes labialis. The clinical examination revealed two fluid-filled vesicles on the patient's upper lip, as shown in figure-1 with a mildly congested throat. Recorded vitals were; pulse, 89/min, BP, 140/90mmHg, R/R 18/min, oxygen saturation on pulse oximetry was 98% on room air. Other clinical findings were unremarkable. The basic laboratory workup done and the results were as follows: White blood cells, $5.60 \times 10^9/L$; neutrophils: 59.3%; lymphocytes, 32.8%; total number of lymphocytes, $1.17 \times 10^9/L$; fast C-reactive protein, 33.11 mg/L; potassium, 3.7 mmol/L; sodium, 137 mmol/L; chlorine, 96.0 mmol/L; creatinine, 41 $\mu\text{mol/L}$; urea, 3.2 m/L, as shown in Table-1. The concerned family physician managed the patient with topical antibiotics and symptomatic care. In the meantime, the physician asked for a nasopharyngeal swab for reverse transcription-polymerase chain reaction (rt-PCR) for SARS CoV-2 as per protocol advised the patient for quarantine. The next day the swab test came positive for SARS CoV-2 infection. The patient was approached virtually and advised for any un-toward symptom to notify while strict to the prescribed medication and quarantine. On subsequent virtual follow-up: the patient was doing well, with subsidence of fever, sore throat, and headache. However, the vesicles have crusted while the pain and burning sensation decreased. The patient;

was asked to repeat the rt-PCR that came positive again for the 2nd time. However, clinically, the patient improved and had no major complaint. The patient; was kept under virtual care till the 3rd week, where the crust

resolved completely with a negative result of repeat PCR. The patient’s course of illness timeline; is depicted in figure-2.

Table-1: Basic laboratory workup of the patient

Test	Result	Test	Result
White blood cells	$5.60 \times 10^9/L$	Sodium	137 mmol/L
Hemoglobin	12.7g/dL	Potassium	3.7 mmol/L
Neutrophils	59.3%	Chlorine	96.0 mmol/L
Lymphocytes	32.8%	Creatinine	41 $\mu\text{mol/L}$
Total number of lymphocytes	$1.17 \times 10^9/L$	Urea	3.2 m/L
Fast C-reactive protein	33.11 mg/L		



Fig-1: Vesicles of Herpes Labialis on the upper lip near the left commissure (300DPI)

Days	Signs & Symptoms	rt-PCR (+ve)	Repeat rt-PCR (+ve)	rt-PCR (-ve)
1	Burning sensation in the upper lip Headache, Malaise	Vesicles formation (+ve)	Vesicles /Crust Resolution	
2				
3				
4	Sore throat, Fever			
5				
6				
7				
8	Fever			
9	Subsided, sore throat			
10				
11				
12				
13				
14				
15				
16				
17				
18				
19	Recovered			

Fig-2: Timeline of patient’s clinical course of illness

DISCUSSION

He clinical features of the SARS CoV-2 virus are respiratory. However, non-respiratory findings have been recorded: in a large proportion of patients. The most common clinical features include headache, sore

throat, hyposmia, anosmia, hypogeusia, dyspnea, and in severe cases, pneumonia [4]. The skin and mucous membrane involvement are rare. The study of Hu *et al.* [5], reported only two patients who had “skin rash” out of 1099, COVID-19 confirmed patients. Subsequently,

many patients with dermatologic features have been reported: in the literature. The review article of M. Sachdeva *et al.* [6] concluded that COVID-19 had dermatological manifestations, insisting on further research to validate the association of SARS CoV-2 and dermatological features. The data on mucous membrane involvement is scarce. Carreras-Presas *et al.* [7] (pre-print) reported three cases of dermatological manifestations in patients of COVID-19. One patient; was confirmed by PCR, while two were suspected cases. The peculiar point in all the cases was: having intra-oral ulcers or blisters, contrary to our patient where the vesicles were outside, indicating the possible reactivation of HSV-1 leading to herpes labialis. All their reported cases were aged, while our patient was in the middle of his age. The in-summary of our case signifies two clinical scenarios. First: the pre-clinical period of SARS CoV-2 infections, and secondly: its atypical presentation in the form of herpes labialis. Thus a family physician or first-level responders working as first-in-line should approach the patient as per standard protocol while keeping the COVID-19 pandemic in mind and sort out cases with atypical presentation such as herpes labialis that could be due to possible reactivation of HSV-1.

Conflict of Interest

The authors declare that they have no conflict of interest.

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There was no source of funding for this work.

Consent

An informed consent was taken from the patient for publication of the case and accompanying images.

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