

# Detection of COVID-19 in a Vulvar Lesion

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## Abstract

As new information about coronavirus disease 2019 (COVID-19) is rapidly discovered, clinicians are better equipped to make informed decisions for their patients. While current research suggests COVID-19 viral antigen is not found in vaginal secretions, its detectability in the female lower genital tract may have clinical implications for obstetric and gynecologic care for women. We present a case of a woman at 31 weeks' gestation with simultaneous upper respiratory symptoms and vulvovaginitis. She was found to have a vulvar lesion positive for severe acute respiratory syndrome-COVID by viral swab. This case shows that COVID-19 is detectable in the vulva. This may have implications for health care workers' exposure and personal protective equipment needs. While vertical transmission has largely not been reported, the presence of detectable virus in the female lower genital tract makes this a continued possibility and area of study.

## Keywords

- COVID-19
- vulvar lesion
- viral swab
- vertical transmission
- personal protective equipment

## Key Points

- COVID-19 is detectable in the female lower genital tract.
- The detection of COVID-19 in the vulva may have implications for personal protective equipment use.
- The detection of COVID-19 in vulvovaginal lesions makes vertical transmission a continued possibility.

We present a case of a pregnant woman with simultaneous upper respiratory symptoms and vulvovaginitis. She was found to have a vulvar lesion positive for COVID-19 by viral swab. While current research suggests that COVID-19 viral antigen is not found in vaginal secretions,<sup>1,2</sup> other lower genital tract shedding or manifestations may have clinical implications for obstetrician-gynecologists.

The patient, a 26-year-old G3P1011 at 31 weeks' gestation with a history of chronic hypertension, presented to a routine prenatal visit. She reported recent history of cough, fatigue, myalgias, anosmia, and ageusia. She denied fevers or sick contacts. Despite these symptoms, she was most bothered by vulvovaginitis, reporting vulvar pruritis and burning.

On physical examination, she was found to have normal vital signs, cardiopulmonary examination, fundal height, and fetal heart tones. On chaperoned pelvic examination, a 3-mm ulceration in the right posterior fourchette of the vaginal introitus was noted, and a viral swab was performed to be sent for herpes simplex virus (HSV) viral polymerase chain reaction (PCR) testing. She was also diagnosed with a candida yeast infection of the vulva and prescribed fluconazole. Given her other reported symptoms, a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) nasopharyngeal test was also ordered, and the patient was instructed to have the test performed at an offsite outpatient testing site specifically designated for this purpose.

Results returned 3 days later. The RT-PCR testing, specifically Roche Diagnostics'cobas SARS-CoV-2 Test run on the

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cobas 8800 System, resulted as negative for SARS-CoV-2 RNA but positive for Pan-SARS RNA, a less specific but more sensitive assay within the dual target test. The processing laboratory clarified that this should be treated as a presumptive positive test for SARS-CoV-2. The patient was contacted, but she reported that she had not yet gone for outpatient nasopharyngeal testing. At this time, it was discovered that the viral swab from the vulvar lesion had been inadvertently labeled as a nasopharyngeal swab and sent for SARS-CoV-2 testing rather than HSV testing.

The patient was contacted and immediately informed of the error. Isolation precautions were reviewed, and she agreed to present to the clinic the next day with appropriate infection prevention precautions in place for a nasopharyngeal swab and repeat HSV swab of the vulvar lesion. The vulvar lesion specimen returned negative for HSV-1 and HSV-2. However, her nasopharyngeal swab, which was processed using the same Roche cobas dual target assay and 8800 system, returned positive for SARS-CoV-2 RNA and Pan-SARS RNA.

Given these results and her symptoms at the time of testing, the patient was instructed to self-isolate and had a telemedicine follow-up appointment in 1 week. At that time, she reported resolution of her COVID-19 and vulvar symptoms. A follow-up pelvic examination was then performed 25 days after the vulvar lesion was initially noted. During that appointment, the vulvar lesion was no longer present, and the patient continued to report resolution of her COVID-19 and vulvar symptoms.

This patient represents the first reported case of SARS-CoV-2 viral shedding detected in a vulvar lesion. As nonrespiratory manifestations of COVID-19 are being reported such as chilblain-like lesions found on fingers and toes of patients with this disease,<sup>3</sup> patients with COVID-19 may have vulvovaginitis as a dermatologic manifestation of their disease, with unknown viral shedding in these lesions. It is unclear, however, if this lesion was caused by COVID-19, or rather if viral shedding is occurring in mucus membrane fissures of any origin and that the origin of the lesion was from another cause. Whatever the primary etiology, the detectability of SARS RNA in a vulvar lesion may have implications for health care workers' exposure to SARS-CoV-2 during pelvic examinations and/or vaginal deliveries. Knowing the virus is detectable in the lower genital tract, providers may consider the use of certain per-

sonal protective equipment during obstetric or gynecologic examinations. This consideration is of even greater significance given the presence of asymptomatic disease in patients and close contact during essential aspects of these physical examinations.<sup>4-6</sup>

Finally, while vertical transmission of COVID-19 to fetuses and newborns has not been definitively shown,<sup>7-9</sup> the presence of detectable virus in the lower genital tract should prompt continued studies into this possibility. This may have significance in a variety of obstetric scenarios (e.g., prolonged rupture of membranes and prolonged second stage of labor).

By highlighting this case, we wish to alert physicians to this phenomenon and these resulting considerations.

#### Conflict of Interest

None declared.

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