

CASE REPORT

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Parotitis as clinical manifestation of COVID-19 infection, emergency physician experience: A case report

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Abstract

COVID-19 (coronavirus disease 2019) is a viral infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and a World Health Organization (WHO) declared pandemic. Infection is caused by SARS-CoV-2, the usual clinical presentations of coronavirus disease 2019 (COVID-19), include upper respiratory tract symptoms as fever, sore throat, cough, dyspnea, rhinorrhea, myalgia, headache, also it can also manifest by diarrhea and olfactory impairment. We aim to increase knowledge about clinical presentation of COVID-19 to decreased missed cases. Our case is description of COVID-19 case for an emergency medicine physician who manifested with atypical presentation that is acute parotitis. Acute parotitis is confirmed to be a clinical manifestation of coronavirus disease 2019.

Keywords: Acute Parotitis, Coronavirus disease 2019, SARS-CoV-2 symptoms

Introduction

COVID-19 (coronavirus disease 2019) declared as pandemic by World Health Organization (WHO), is a viral infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). As of June 2020, about 8 million people infected globally with about 450,000 deaths [1].

The typical symptoms of COVID-19 are systemic and/or respiratory manifestations [2]. Some infected individuals with SARS-CoV-2 are asymptomatic and can act as carrier [3].s. Also mild gastrointestinal or cardiovascular symptoms may be present, although these are much less common [4,5].

Common clinical manifestation include fever (85-90%), dry cough (65-70%), other manifestation as disturbed taste and smell (40-50%), fatigue (35-40%), productive cough (30-35%), dyspnea (15-20%). Less commonly, arthralgia, myalgia (10-15%), headaches (10-36%), sore throat (10-15%), pleuritic pain. Rarely it may present by: nausea, vomiting, nasal congestion (<10%), diarrhea (<5%) [2], chest tightness [5], seizures, altered consciousness [6]. COVID-19 infections have reported disturbances of smell and taste patients mostly due to a neurological than a conductive cause of the olfactory dysfunction [7-10].

Conjunctivitis also may be present and a positive viral PCR in these patient conjunctival fluid [11,12]. Conjunctivitis may be the only clinical manifestation in some patients with COVID-19 [13].

Also cutaneous lesions may be seen, similar to many other viral infections most commonly an erythematous rash, which is self-limited, resolving in a few days [14].

Diagnosis

The definitive test for SARS-CoV-2 is the real-time reverse transcriptase-polymerase chain reaction (RT-PCR) test. It is believed to be highly specific, but with sensitivity reported as low as 60-70% [15] and as high as 95-97% [16]. Meta-analyses have reported the pooled sensitivity of Reverse Transcriptase Real-Time Polymerase Chain Reaction (RT-PCR) to be 89% [17]. Thus, false negatives are a real clinical problem, and several negative tests might be required in a single case to be confident about excluding the disease.

Its sensitivity is predicated on time since exposure to SARS-CoV-2, with a false negative rate of 100% on the first day after exposure, dropping to 67% on the fourth day. On the day of symptom onset (~4 days after exposure) the false negative rate remains at 38%, and it reaches its nadir of 20% three days after symptoms begin (8 days' post exposure). From this point on, the false negative rate starts to climb again reaching 66% on day 21 after exposure [18].

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We aim to increase knowledge about clinical presentation of COVID-19 to decreased missed cases.

Case Presentation

AI will let Dr. Mahmoud to present himself as a case of Coronavirus Disease 2019 (COVID 19) infected patient,

-I am 32 years old, Egyptian, male emergency medicine physician, with no Past medical history working in a tertiary hospital in Saudi Arabia that also receiving suspected COVID 19 infected patients.

At the beginning of April While the COVID19 pandemic became exaggerated our hospital took decision to make emergency department (ED) staff working in subgroups to avoid exposure of large number to the infection, so my group started to work with each other for two and half months which consists of 4 doctors and we all taking our precautions regarding personal protective equipment (PPE) according to WHO recommendations to avoid infection and no one of us developed any symptoms all these period till June 15th, when one doctor of my group began to develop respiratory symptoms like mild dry cough, body aches and sore throat at the same day we scored him and he was eligible for swabbing and I took nasopharyngeal swab from him in negative pressure room wearing all my PPE and result came out on the next day and it was positive for SARS COV RNA.

After that in the next day June 16th his wife came complaining of diarrhea and body aches and fever and I swabbed her also at same manner and results came out in next day and it was positive for SARS COV RNA, both of them were vitally stable and their laboratory investigation and chest x ray (CXR) were good and they advised to go under home isolation according to our Saudi MOH guidelines and reporting if any worsening of symptoms

In June 17th I was working in our ED and began to develop mild body aches with mild sore throat only, at that time our team leader took the decision to swab me at same day and I went home waiting for results.

Day 1; (June 18th) my result was positive for SARS COV RNA (Real time PCR Nasopharyngeal swab) and preventive medicine called me asking me about any worsening of symptoms and after reassurance they advised me to stick to home isolation and report if any deterioration happened, at the same day I started to feel very localized pain at the Left angel of the mandible with mild swelling of the left parotid gland and mild body aches (picture attached for day 1), I started to take symptomatic treatment at that day without improvement in the form of paracetamol, multivitamins, zinc, vitamin c tablets.

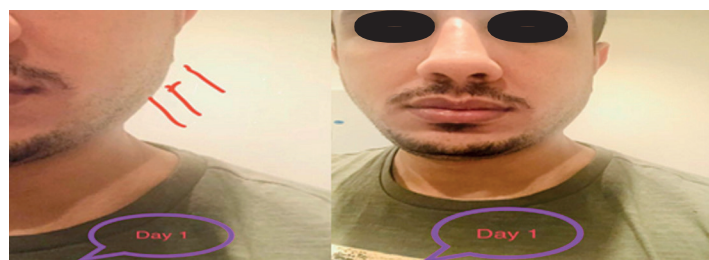


Figure 1. Pictures of the first day symptoms

Day 2; pain increased over the area below the left ear with increasing swelling size without any respiratory symptoms and all

my lab works and CXR were within average (results and picture attached), then started to add some antibiotics like azithromycin 500 mg and amoxicillin with clavulanic acid 2 gr per day with saponins tablet which has anti-inflammatory, vasoconstrictor and vasoprotective effect.



Figure 2. Pictures of the second day symptoms

Regarding laboratory investigation:
Hematological result shows normal blood picture.

Table 1. show some of the laboratory result:

Test name	Result	Unit	Reference Range
D-Dimer	0.21	mg/L	0-0.55
Ferritin	198.7	ng/mL	22-322
Albumin	40.2	g/L	34-50
Alkaline Phosphatase	62.8	U/L	50-136
Amylase	438.7	U/L	25-115
Magnesium	0.66	mmol/L	0.74-0.99

Liver enzyme, S.bilirubin, BUN, Calcium, Chloride, CK, CKMB, S.creatinine, GGT, Glucose, LDH, Lipase, Potassium, Sodium and S.uric acid all were within normal range

Day 3; while swelling increases, pain becomes very agonizing and severe and it didn't relieve by oral analgesics so I started to arrange with infection control to go for ER visit to check what's wrong.

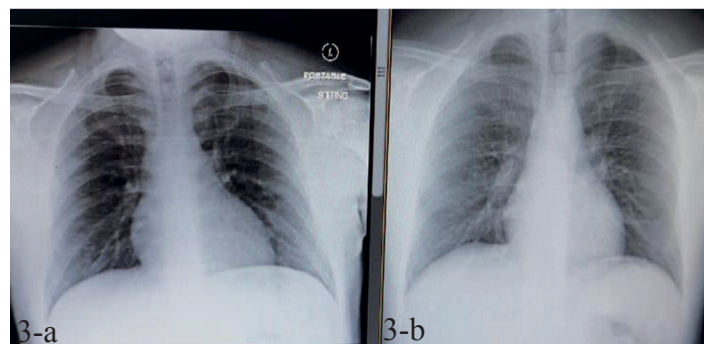


Figure 3. Pictures of the second day of symptoms Chest X ray

Arrangement done and I went to ER in isolation room then they requested Ultrasonography for parotid gland and salivary gland

There is enlarged parotid gland with no duct obstruction so diagnosis gone for acute parotitis as paramyxovirus and Cytomegalovirus antibodies were negative

Ultrasonography showed an enlarged and diffuse hypoechoic parotid gland structure, with increased vascularization on color Doppler; no salivary duct enlargement or stones were identified.

Day 4; swelling and pain started to improve with medication and hot fomenting and still no respiratory symptoms (picture attached), after taking dexamethasone 8 mg intravenous injection in day 3 ER visit



Figure 4. Pictures of the fourth day symptoms

Day 5; edema and pain start to be subsided gradually.



Figure 5. Pictures of the fifth day symptoms

Day 6; recovery is better and symptoms disappeared gradually but new symptoms started to appear which is bouts of diarrhea may be up to 3 times per day with mild to moderate abdominal discomfort



Figure 6. Pictures of the six day symptoms

Day 7; complete symptomatic recovery on the same course of medications.

Day 8; all symptoms disappeared except some sore throat and bouts of diarrhea and abdominal discomfort that remains but without associated symptoms, at that day I started to stop antibiotics.

Day 9; continues on plenty of fluids with hot remedies and paracetamol when needed.

Day 10; all medications are stopped and started to regain normal activities then I received a call from our employees' health clinic asking for coming to check on my health status

Day 11; they checked me and reassured about my condition and i became better and able to be back to work in ER again after 2 days with instructions to stick to my Personal protective equipment.

At day 14 I am back to my regular life now, working again and taking all my precautions

Discussion

SARS-CoV-2 diagnosed by reverse transcriptase real-time polymerase chain reaction (RT-PCR) of nasopharyngeal or oropharyngeal swabs. However, SARS-CoV-2 also founded at high viral loads in saliva specimens [19,20]. This suggests the possibility of SARS-CoV-2 salivary infection, although its detection in saliva may be partially related to the contribution, in this milieu, of secretions from the nasopharynx or the lower airways [21].

We describe a patient who was SARS-CoV-2 positive whose

first clinical manifestation was an acute nonsuppurative parotitis. This is not the first time as another case report was in an Italy, previously healthy 26-year-old man developed left painful parotid swelling on the same day. Fever and myalgia occurred. The patient slowly improved with complete recovery after 3 days from starting of symptoms [20]. In comparison to our patient who show complete recovery after 6 days of symptoms. This may be due to difference in treatment protocols.

Clinically, our patient presented with swelling of the left parotid gland was found without purulent discharge after parotid massage, this is what exactly happen in Pasquale C et al case report.

Cytomegalovirus and paramyxovirus antibodies were negative. Ultrasonography showed an enlarged and diffuse hypoechoic parotid gland structure, with increased vascularization on color Doppler; no salivary duct enlargement or stones were identified. Unfortunately we didn't document SARS-CoV-2 RNA in the saliva, but we believe that acute non-suppurative parotitis should be considered a possible manifestation of the COVID-19 disease spectrum.

Conclusion

This case confirms the usefulness of including acute parotitis as atypical presentations of the COVID-19 disease spectrum.

Recommendation

I recommend to add acute parotitis as a clinical presentation of COVID-19. So don't miss this a typical presentation when a physician deal with a suspected COVID-19 patient.

Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal. Also the patient is one of case report authors.

Conflict of interests

The authors declare that they have no competing interest

Financial Disclosure

All authors declare no financial support.

Informed Consent

The patients included in the study signed the informed consent form.

Ethical approval

Local ethics committee approval don't need for this case report.

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