

Sacroiliac Pain And Tenesmus As A Rare Manifestation Of COVID-19: A Case Series

Mahmoud Khodabandeh

Children's Medical Center

Elmira Haji Esmaeil Memar (✉ dr.elmira.memar@gmail.com)

Children's Medical Center

Alireza Hasanzadeh

Tehran University of Medical Sciences

Hossein Nematian

Tehran University of Medical Sciences

Parisa Sadeghirad

Children's Medical Center

Research Article

Keywords: COVID-19, Sacroiliac pain, Tenesmus, Case report, SARS-CoV-2

Posted Date: March 7th, 2022

DOI: <https://doi.org/10.21203/rs.3.rs-1413086/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License. [Read Full License](#)

Abstract

Background: The clinical manifestations of the SARS-CoV-2 infection are mainly respiratory but the virus can cause a variety of symptoms. There is a big challenge in detecting COVID-19 from uncommon manifestations. This study is going to present patients with COVID-19 reinfection who had symptoms of disabling sacroiliac pain and also some other patients with new COVID-19 infection that came with tenesmus.

Case presentation: In this case report, we describe a COVID-19 patient who presented with sacroiliac pain or tenesmus. Eight patients with COVID-19 reinfection came with symptoms of disabling sacroiliac pain in their second course of the disease. This symptom limited their movement. These patients did not have any fever or respiratory distress. Also, six COVID-19 patients came with tenesmus which they described as a severe and unrelenting desire to defecate.

Conclusions: These cases highlight the difficulty in detecting COVID-19 from a rare but important manifestation.

1. Background

Aside from the core signs and symptoms of novel coronavirus (SARS-nCoV or 2019-nCoV), an increasing number of less common presentations have been reported. Among the clinical features of the disease, the most frequent manifestations are fever, cough, dyspnea, upper respiratory tract symptoms (rhinorrhea, sore throat), headache, myalgias, nausea, diarrhea, smell, and taste disorders confusion [1]. The prevalence of fatigue and pain was 76.6% and 69.3%, respectively. Generalized pain, headache and back pain are among the most common types of pain [2]. Pain also could begin before other symptoms and might be a preliminary manifestation of the disease [3]. Cytokine storm, an increased amount of inflammatory markers and also psychosomatic disorders are considered to have an important role in the development of pain [4–7]. Although these signs and symptoms are nonspecific and are present in other viral respiratory infections, the development of pneumonia, presenting as dyspnea and bilateral infiltrates on lung imaging, several days after the onset of these signs and symptoms is highly suggestive in the present context. Various other symptoms have been associated with COVID-19 but the predictive value of a single symptom in the diagnosis is uncertain. Also, some patients could experience COVID-19 reinfection after a period of time. It might be very hard to evaluate all of them because of the wide range of signs and symptoms. Therefore, it will increase the number of undiagnosed patients [8]. In this case series, we present patients with COVID-19 reinfection who had symptoms of disabling sacroiliac pain and also some other patients with new COVID-19 infection that came with tenesmus.

2. Case Presentation

Eight patients with COVID-19 reinfection came with symptoms of disabling sacroiliac pain in their second course of the disease. This symptom limited their movement. These patients did not have any fever or respiratory distress.

First case was a 46-year-old male with coryza and sacroiliac pain. In this course of the disease, he had a positive IgM test for 2019-nCoV, whilst the PCR was negative. He had a positive COVID-19 PCR test 7 months

before this pain starts. Second one was a 36-year-old female came to our clinic with sacroiliac pain and with no other positive sign or symptoms of COVID-19. She had a positive PCR test in this course and 7 months ago, as well. The first and second cases were couple and a medical doctor.

Third patient was a 40-year-old male medical doctor. His second course of disease presented with sacroiliac pain and coryza; COVID-19 PCR result was also positive. He did not have other signs or symptoms of SARS-nCoV infection. His last positive PCR test was for about 6 months ago. Fourth case was a 37-year-old female medical doctor which was married to the previous case and had sacroiliac pain. Her PCR test was negative for COVID-19 but IgM results against SARS-nCoV. The last positive PCR test in this patient was for 6 months ago, just like her partner. Both third and fourth cases were medical doctor.

Fifth one was a 42-year-old male with a positive history of COVID-19 (latest positive SARS-nCoV PCR test was for about 7 months ago) came to the clinic with symptoms of sacroiliac pain, cough and coryza but no sign of fever. His COVID-19, in this time was also confirmed with a positive PCR test result.

Sixth case was a 52-year-old male with a positive history of COVID-19 (PCR test result was positive in this patient 6 months ago) who came to our clinic with sacroiliac pain and no other symptoms. During work-ups, he had another positive SARS-nCoV PCR test result.

Seventh one was a 52-year-old female came to the clinic with cough and sacroiliac pain. She also was infected with SARS-nCoV (positive PCR test about 5 months ago). Her COVID-19 PCR results became positive once again, this time.

The last patient with sacroiliac pain was a 28-year-old female who presented with coryza and sacroiliac pain. She had no other signs or symptoms which are more common in COVID-19. Her PCR results for COVID-19 was positive just like 5 months ago which she was infected with SARS-nCoV.

These 8 patients had a history of SARS-nCoV infection. Because, we did not find any other cause for this pain, we checked them, regarding COVID-19 reinfection. The test results were positive (Table 1). Thereafter, patients were isolated and received specific treatment. Finally, the pain resolved in two weeks.

Table 1
Patients with sacroiliac pain

N	Gender (Male / Female)	Age (Year)	Sacroiliac Pain (+/-)	Fever (+/-)	Cough (+/-)	Coryza (+/-)	PCR (+/-)	Serology IgM (+/-)	Last PCR+ (Months)	Other
1	Male	46	+	-	-	+	-	+	7	C1-MD
2	Female	36	+	-	-	-	+	/	7	C1-MD
3	Male	40	+	-	-	+	+	/	6	C2-MD
4	Female	37	+	-	-	-	-	+	6	C2-MD
5	Male	42	+	-	+	+	+	/	7	/
6	Male	52	+	-	-	-	+	/	6	/
7	Female	52	+	-	+	-	+	/	5	/
8	Female	28	+	-	-	+	+	/	5	/

Also, other COVID-19 patients presented with tenesmus. Here we report six COVID-19 patients with this manifestation which they described as a severe and unrelenting desire to defecate. First one was a 7-year-old boy. His 46-year-old father and 36-year-old mother also had COVID-19 and came with tenesmus. Also, there were three other child that had COVID-19 and tenesmus (Table 2). The WBC level, lymphocytes percent and CRP level were evaluated in these six patients too (Table 2).

Table 2
Patients with tenesmus

N	Gender	Age (Year)	Tenesmus (+/-)	WBC (4–10 × 10 ³ /uL)	Lymphocytes (%)	CRP (0–5 mg/L)
1	Male	42	+	8200	12	32
2	Female	32	+	6800	18	12
3	Male	6	+	8000	15	10
4	Male	7	+	9200	20	6
5	Male	7	+	10000	18	4
6	Male	6	+	8200	15	8

3. Discussion

Respiratory sign and symptoms are the main clinical manifestations of the SARS-CoV-2 infection. However, multi-organ damages are present in variable proportions. In a study of 138 patients hospitalized in Wuhan, the clinical presentation at the admission were as follow 99% fever (not as common in other studies), 70% fatigue, 59% dry cough, 40% anorexia, 35% myalgias, 31% dyspnea, 27% sputum production [9]. In another study in New York, assessing over 5000 patients, temperature over 38°C at admission was detected in only 31% of patients [10]. Anosmia and dysgeusia also have been identified as common symptoms in COVID-19. In a survey of 202 outpatients from Italy 64% reported alteration of smell or taste [11]. A systematic review demonstrated that the prevalence of gastrointestinal symptoms was 18% [12]. Therefore fever, fatigue, pain (specially myalgia, arthralgia, sore throat, and headache), respiratory and gastrointestinal symptoms are commonly known as the most prevalent manifestations of COVID-19 [13].

The disease could be demonstrated with less common presentation such as skin rashes, anosmia, ageusia, etc [14]. In this study, we found an unusual symptom, which is immobilizing sacroiliac pain in 8 patients. The exact molecular mechanism for inducing pain is not clearly understood but it is supposed to be due to an increase in the amount of inflammasomes and cytokines. The elevated amount of interleukin-6, interleukin-10 and also tissue necrosis factor-alpha, because of COVID-19 is assumed to be the cause of myalgia and generalized pain [15, 16]. The disease could result in a higher amount of angiotensin converting enzyme II (ACE-II) (and its accumulation) in the dorsal horn of the spine [17]. This augmented quantity of ACE-II can participate in higher pain sensation in infected individuals.

At last, low back pain could be the only presentation of COVID-19, especially in those who had a previous course of the disease even in the absence of more common symptoms like, fever, cough and others. According to the investigation, they showed that the pain could be related to reinfection. More detailed work-ups in those who have more exposure with COVID-19 patients, i.e. healthcare workers, can be of particular importance.

Because of the small sample size in this study, further investigation should be performed to evaluate the sacroiliac pain in SARS-nCoV reinfection and approve the significance of these results. Also In this study, a more holistic investigation for example doing MRI, was not possible because the patients did not consent to do so. Another limitation of this study was the insufficient number of patients; therefore, it is not possible to reach a statically significant result.

We suggest COVID-19 work-up (including checking SARS-nCoV PCR and serology) in those who have any symptom that could not be attributed to other causes.

4. Conclusion

Identifying the known manifestations is helpful in better understanding the true extent of SARS-CoV-2 infection. Aside from the respiratory tropism of the SARS-CoV-2 virus, which is currently of scientific interest, we must consider that SARS-CoV-2 has a multi-organ tropism. We not only present these rare manifestations but also suggest that they may correlate with immunity. These cases highlight the difficulty in detecting COVID-19 from a rare but important manifestation.

5. List Of Abbreviations

SARS-nCoV: Severe acute respiratory syndrome coronavirus 2

2019-nCoV: Novel coronavirus

COVID-19: Coronavirus disease 2019

IgM: Immunoglobulin M

PCR: Polymerase chain reaction

WBC: White blood cell

ACE-II: Angiotensin-converting enzyme 2

MRI: Magnetic resonance imaging

CRP: C-reactive protein

Declarations

Ethics approval and consent to participate

These investigations were fully approved by the Institutional Research Ethics Committee School of Medicine-Tehran University of Medical Sciences.

Consent for publication

Written informed consents were obtained from the patients' parents (as surrogate decision-makers) 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.

Availability of data and materials

The datasets generated and/or analyzed during the current study are available from EHEM (dr.elmira.memar@gmail.com) on reasonable request.

Competing interests

All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' contributions

MK: Conceptualization, writing original draft, editing and reviewing. EHEM: Conceptualization, writing original draft, editing and reviewing. AH: Supervision, editing and reviewing manuscript. HN: Supervision, editing and reviewing manuscript. PS: Conceptualization, data curation, editing and review manuscript.

All authors have read and approved the manuscript.

Acknowledgements

Not applicable

References

1. Murat S, Dogruoz Karatekin B, Icgasioglu A, Ulasoglu C, Icten S, Incealtin O. Clinical presentations of pain in patients with COVID-19 infection. *Ir J Med Sci*. 2020.
2. Meyer-Friessem CH, Gierthmuhlen J, Baron R, Sommer C, Uceyler N, Enax-Krumova EK. Pain during and after COVID-19 in Germany and worldwide: a narrative review of current knowledge. *Pain Rep*. 2021;6(1):e893.
3. Song XJ, Xiong DL, Wang ZY, Yang D, Zhou L, Li RC. Pain Management During the COVID-19 Pandemic in China: Lessons Learned. *Pain Med*. 2020;21(7):1319–23.
4. Hirano T, Murakami M. COVID-19: A New Virus, but a Familiar Receptor and Cytokine Release Syndrome. *Immunity*. 2020;52(5):731–3.
5. Lee KM, Kang BS, Lee HL, Son SJ, Hwang SH, Kim DS, et al. Spinal NF- κ B activation induces COX-2 upregulation and contributes to inflammatory pain hypersensitivity. *Eur J Neurosci*. 2004;19(12):3375–81.
6. Kaur A, Singh L, Singh N, Bhatti MS, Bhatti R. Ameliorative effect of imperatorin in chemically induced fibromyalgia: Role of NMDA/NF κ B mediated downstream signaling. *Biochem Pharmacol*. 2019;166:56–69.
7. Chaturvedi SK. Health anxiety, health-related life events, and somatization during COVID-19 pandemic can increase chronic pain. *Pain*. 2020;161(11):2652.
8. Adrielle Dos Santos L, Filho PGG, Silva AMF, Santos JVG, Santos DS, Aquino MM, et al. Recurrent COVID-19 including evidence of reinfection and enhanced severity in thirty Brazilian healthcare workers. *J Infect*. 2021.
9. Casas C, Catalá A, Hernández G. Classification of the cutaneous manifestations of COVID-19: a rapid prospective nationwide consensus study in Spain with 375 cases [published online April 29, 2020]. *Br J Dermatol*.
10. Suchonwanit P, Leerunyakul K, Kositkuljorn C. Cutaneous manifestations in COVID-19: Lessons learned from current evidence. *Journal of the American Academy of Dermatology*. 2020;83(1):e57–e60.
11. Sachdeva M, Gianotti R, Shah M, Bradanini L, Tosi D, Veraldi S, et al. Cutaneous manifestations of COVID-19: Report of three cases and a review of literature. *Journal of dermatological science*. 2020;98(2):75–81.
12. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, et al. Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus-Infected Pneumonia in Wuhan, China. *Jama*. 2020;323(11):1061–9.

13. WHO. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19). World Health Organization: Geneva, Switzerland. 2020.
14. Mao L, Jin H, Wang M, Hu Y, Chen S, He Q, et al. Neurologic Manifestations of Hospitalized Patients With Coronavirus Disease 2019 in Wuhan, China. *JAMA Neurology*. 2020;77(6):683–90.
15. Pedersen SF, Ho YC. SARS-CoV-2: a storm is raging. *J Clin Invest*. 2020;130(5):2202–5.
16. Jiang X, Coffee M, Bari A, Wang J, Jiang X, Huang J, et al. Towards an Artificial Intelligence Framework for Data-Driven Prediction of Coronavirus Clinical Severity. *Computers, Materials & Continua*. 2020;63(1):537–51.
17. Su S, Cui H, Wang T, Shen X, Ma C. Pain: A potential new label of COVID-19. *Brain Behav Immun*. 2020;87:159–60.