

# Low backache and sciatica as an early presenting sign for covid 19

By Lec. Dr Saad A. AbduLateef

University lecturer at Al - Iraqia University / Collage of Medicine, consultant orthopedic surgeon.  
[saad\\_alane@yahoo.com](mailto:saad_alane@yahoo.com)

## Abstract:

**Background:** Novel coronavirus infection is known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV2). Some patients presented with non-respiratory manifestations including neurological nerve involvement has been reported.

**Method:** 31 cases was examined and reported to have a positive PCR swab examination presented with sciatica with or without backache.

**Results:** most of the cases (68%) were females, most of the cases were in between the age of 30-59 however no case was reported to be less than 30 years old. 67.7 % of cases had a positive previous history of sciatica, 16% of the cases presented as sciatica without knowing that they have to be covid positive test. While most of the patients had unilateral sciatica associated with backache, again most of the cases 80% didn't report any history of weight lifting.

**Conclusion:** the affection of the back and presentation of sciatica in older age groups covid 19 infection should be considered as a cause whether it is the primarily affected organ (nervous) or secondary to respiratory manifestation need to be further studied and clarified.

**Key word:** covid-19 , sciatica.

## Introduction:

Novel coronavirus infection is known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV2). The novel coronavirus (Covid-19) outbreak originated from Wuhan city, China in Dec. 2019. Chinese authorities reported unusual cases of pneumonia of undetermined etiology, World health organization (WHO) declared it a pandemic on 11 March 2020.<sup>[1]</sup>

it has been approved that many patients with covid 19 infection presented with non-respiratory signs and symptoms and some presented with pure neurological manifestations were Headache, dizziness, taste and smell dysfunctions, and impaired consciousness were the most frequently described neurological symptoms [2].

Sciatica is a condition involving considerable pain and disability. It is characterized by radiating pain in one leg with or without associated neurological deficits at physical examination<sup>[3]</sup>.

The sciatica may be due to disc prolapse, were the prolapsed disc may cause irritation of the emerging nerve root which present itself as sciatica less commonly the sciatic nerve only. or could be a representing feature of irritation of any elements of the vertebrae, Sciatica means any pain transmitted along the sciatic nerve roots and course, and leads to different levels of impairment, especially in elderly people, as well as socio-economic consequences because of loss of working hours, and difficulty in the approach to treatment<sup>[4]</sup>. Sciatica due to slipped disc often starts suddenly with lifting, and the pain gets worse when coughing, sneezing, pressing, and sitting while experiencing jolting movements. Physical examination reveals a positive Lasègue with or without neurological deficits - motor, sensory and/or both<sup>[3,4]</sup>. In about 90% of the patients, sciatica is caused by a spinal disc herniation pressing on one of the lumbar or sacral nerve roots, with a life-time incidence ranging between 13 to 40%<sup>[1,5]</sup>. Besides, spondylolisthesis, lumbar spondylosis with osteophytic lipping, spinal canal stenosis, piriformis syndrome , pelvic tumors, and pregnancy are other possible causes of sciatica<sup>[4]</sup>.

according to the International Committee on Taxonomy of Viruses, this virus has a nucleic acid sequence that is different from other known coronaviruses but has some similarity to the beta coronavirus identified in bats. Coronaviruses are a large virus group of enveloped positive-sense single-stranded RNA. They are divided into

four genera—alpha, beta, delta and gamma—and alpha and beta coronaviruses are known to infect humans. Rapid and early diagnosis of COVID-19 is a challenging issue for physicians and other healthcare personnel. The sensitivity and specificity of the clinical, radiologic and laboratory tests used to diagnose COVID-19 are variable and largely differ in efficacy depending on the disease’s stage of presentation.<sup>[5]</sup>

Diagnosis of the disease is based on clinical symptoms, epidemiological history and laboratory examinations. Severe acute respiratory diseases with fever and ,cough and dyspnea, are used as the case definition to select people for testing. Different samples taken from the human body such as oropharyngeal and nasopharyngeal swabs are used to detect the virus. SARS-CoV-2 can be detected with different methods in the laboratory including real time RT-PCR, chest CT scan and immunoassays. Viral nucleic acid testing has played important role in control COVIDI-19 outbreak. More recently, a new CRISPR-based DETECTR assay has been developed to detect COVID-19. This test is rapid (~30 min), low-cost, and precise for identification of SARS-CoV-2. In addition, immunoassays and medical imaging can use as supplementary tests, combined with RT-PCR. This review is conducted to summarizes the current information on the present diagnostic approaches for SARS-CoV-2.<sup>[6]</sup>

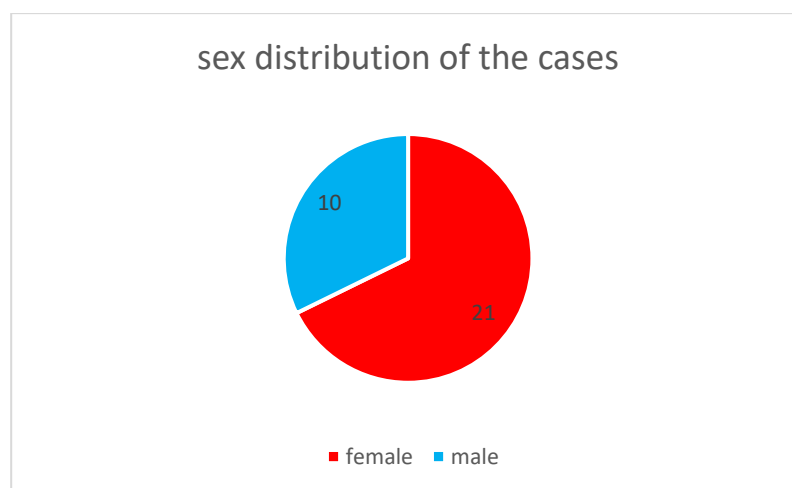
The diagnosis of low backache and sciatica is usually done clinically and the causative factor usually proved by MRI , CT scan , X ray.

### Patients and method:

A prospective , descriptive study was carried out during the period from march 2019 till November 2021, 31 cases all proved to have new infection with covid 19 virus were collected, all were presented with sciatica pain, all clinical tests done to confirm the sciatica, all send for covid PCR test, than they subclassified according to their ages into five age groups 20-29,30-39,40-49,50-59, and above 60. Also the gender was reported and all subjected to a questionnaire for identifying whether they had previous hx of sciatica or not , is there associated backache or not, is the sciatica pain unilateral or bilateral. Some of the patients didn’t know that they are cases of covid since they had mild respiratory symptoms and they simply presented as a cases of backache or sciatica or both where they send for PCR covid test and discovered to be positive. SPSS program version 23 used for statistical interpretation of the results.

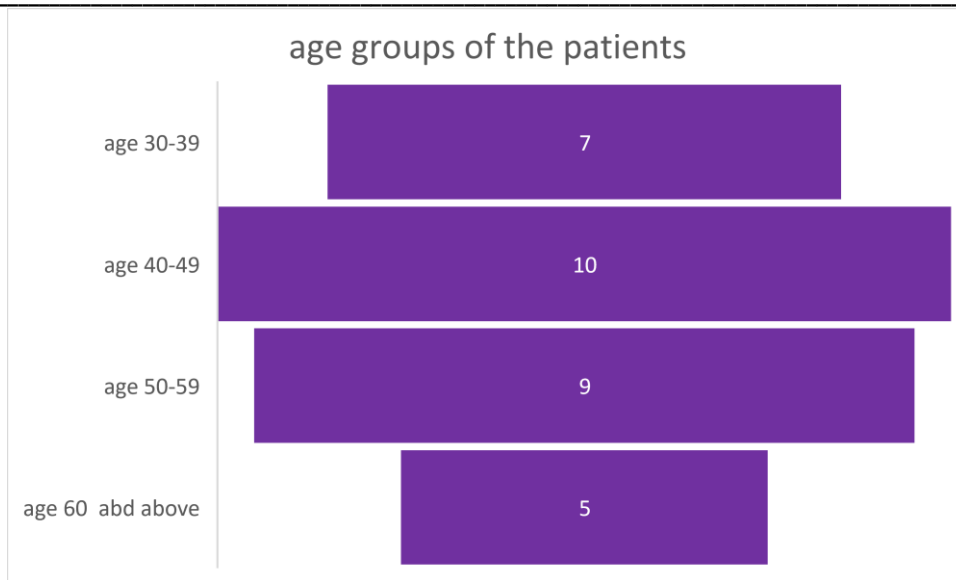
### Results:

Thirty-one cases including 10(32%) males and 21(68%) females were enrolled in this study graph1



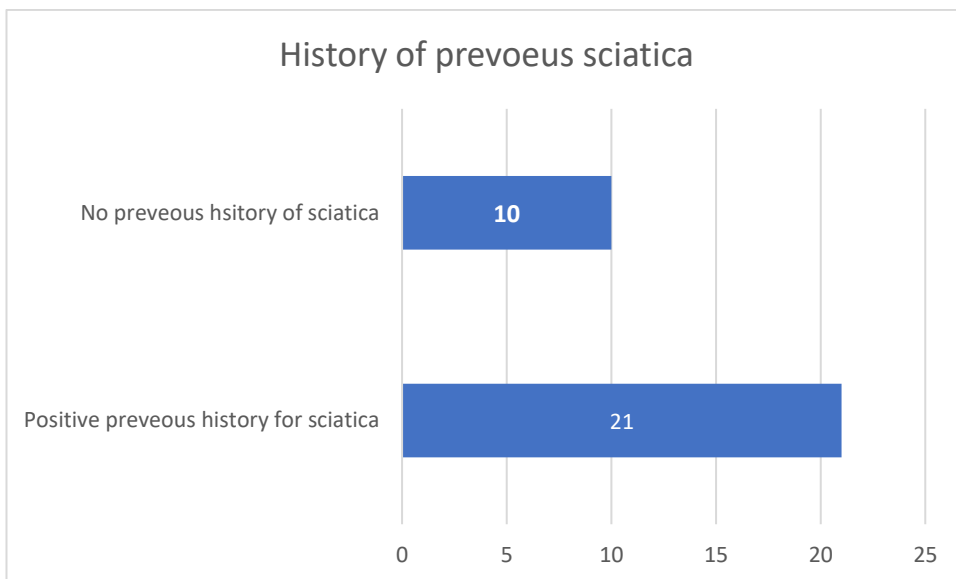
Graph 1 sex distribution of cases

The cases classified according to their age groups into 5 classes which is represented in graph2

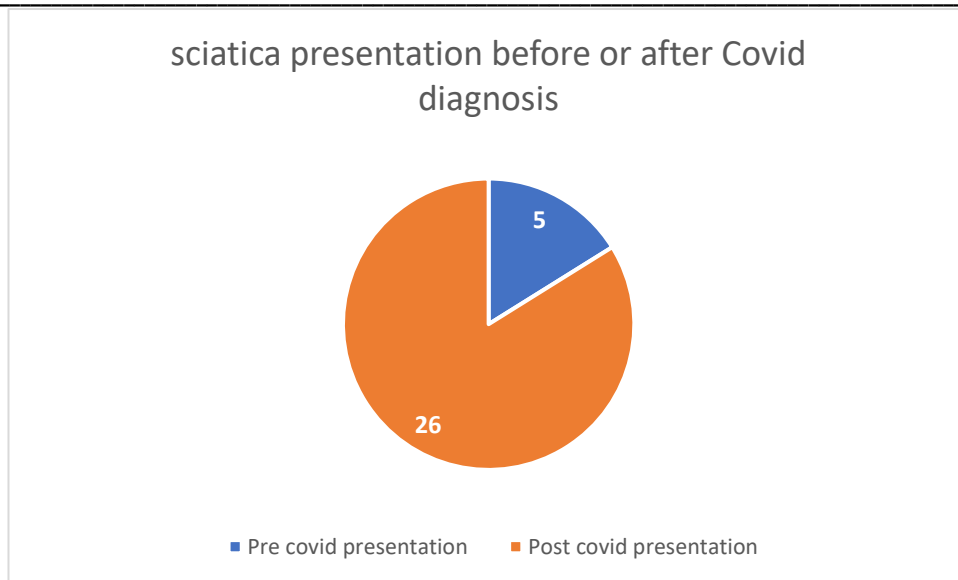


graph 2 showing the distribution of the cases according to their age group knowing that zero cases were recorded in group 20-29 years old.

10 cases (32%) had no previous history of sciatica against 21(68%) who had a positive history of sciatica.  
Graph 3

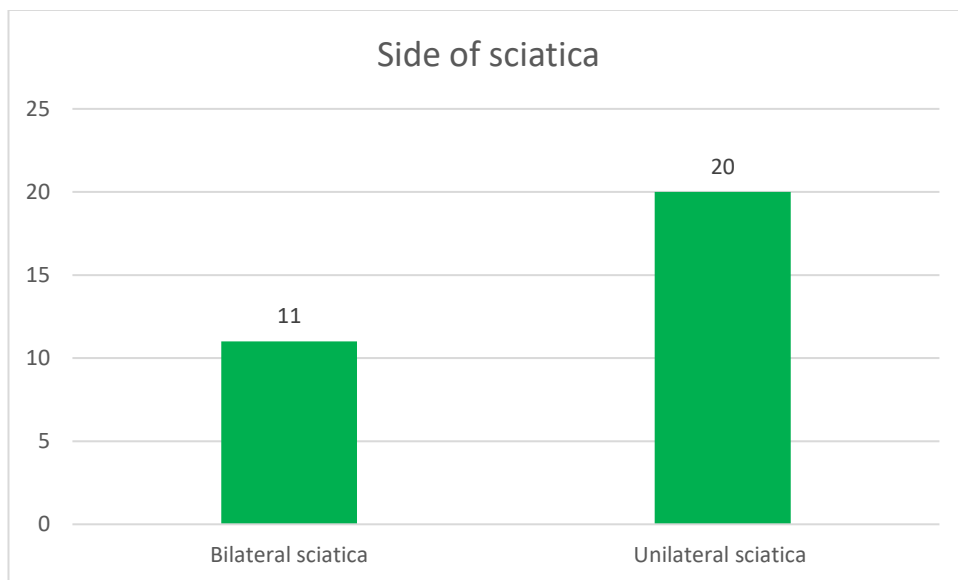


Graph 3 the distribution of cases according to the presence of previous history of sciatica.

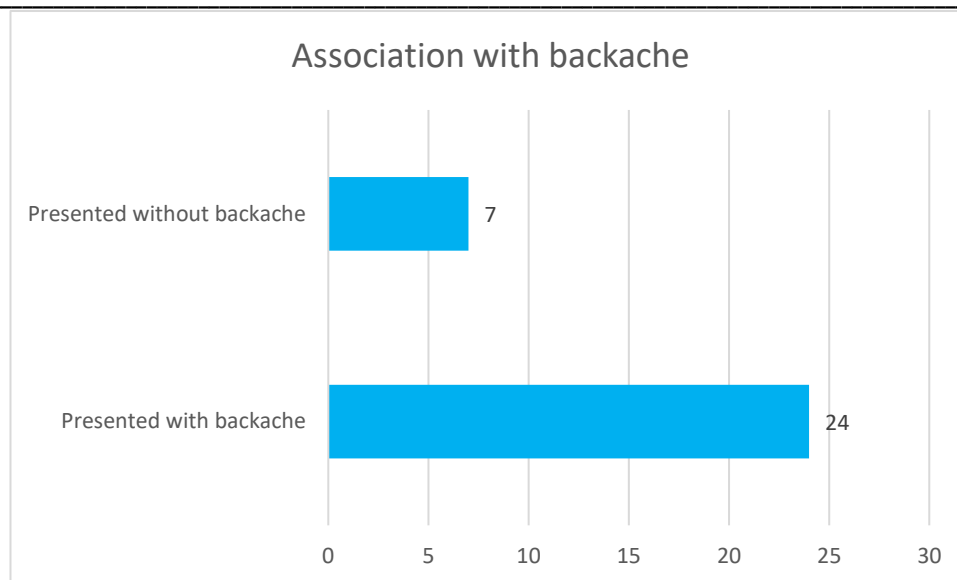


Graph 4 showing the distribution of cases in relation to covid diagnosis.

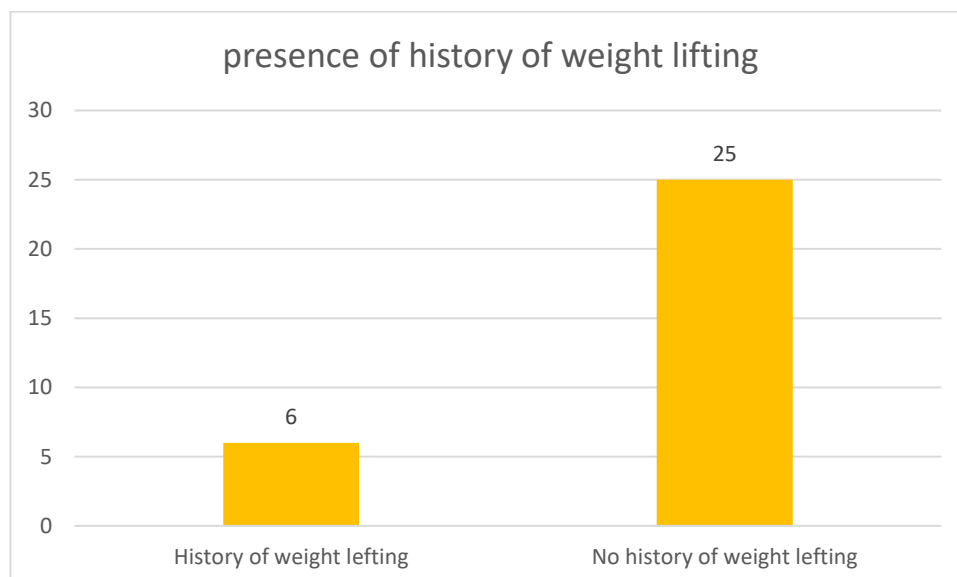
Graph 4 showed the distribution according to discovering the affection with Covid 19 virus, were 26 cases (84%) presented after diagnosing Covid, while 5 cases (16%) presented primarily as a sciatica pain cases discovered to be infected by PCR swab test.



Graph 5 showing the distribution of sciatica pain unilateral or bilateral



Graph 6 showing the association of backache in addition to sciatica



Graph 7 showing the presence of weight lifting history

### Discussion:

Covid-19 is a pandemic disease although it should affect the respiratory system, however many extrapulmonary complications or unusual presentations was reported including the current study in which sciatica pain with or without backache was recoded in 31 patients all discovered to be affected by covid infection. Some of the patients 26 (84%) presented knowing that they have covid infection, while 5(16%) even they didn't know that they have covid infection were they presented primarily as a cases of sciatica, all the patients 31 case confirmed to have a positive PCR swab test. This fact of having covid as an extrapulmonary presentation is agreed by many researchers like Marco Cascella et al.<sup>[7]</sup> while some other researchers just reported sciatica pain in their patients<sup>[8]</sup>, the current study succeeded in collecting these cases. still the mechanism of neural involvement is not clear some reported the involvement of peripheral large nerves as a part of the manifestation of the virus<sup>[9]</sup>. From our side we decided to report our cases and their clinical manifestations, the current study declare that most of the presented patients were females(68%), according to age grouping subclassification the highest age discovered to be involved was in patients 40-49 years old (31%) followed by those with the age between 50-59 years old(29%), but the surprising presenting feature regarding the age is that zero cases were reported at the age of 29 and below which seems unusual for disc prolapse presentation in general. Although 31% of cases didn't have any previous history of sciatica but the remaining

69% reported a previous sciatica attack leaving an open question whether the peripheral nerve is affected as part of neuropathic viral involvement or it is just an extrapulmonary musculoskeletal manifestation of the infection itself. But the presence of many cases 16% who presented with sciatica pain without even knowing that they have covid infection raise the importance of further studying the affection of the peripheral nerves as an isolated involved system which is also raised by other <sup>researchers</sup>[10]. Most of the cases were unilateral 64.5% and most of them associated with backache 77.4%, but also the strange presentation which is against the usual historical presentation of disc prolapse most of the cases 80% didn't report history of wight lifting.

### Conclusion:

The affection of the back and presentation of sciatica in older age groups covid 19 infection should be considered as a cause whether it is the primary affected organ (nervous) or secondary to respiratory manifestation need to be further studied and clarify.

### Recommendation:

Further case series should be collected and more advanced investigation are advised.

### References:

1. Rishu Garg, Rahul Jain, Ajoy Sodani, Dinesh Chouksey, Ravi Dosi<sup>1</sup>, Sunil Athale, Nitisha Goyal, Pankaj Rathi, Hashash Singh, Kapil Telang. Neurological Symptoms as Initial Manifestation of Covid-19 – An Observational Study: Annals of Indian Academy of Neurology · August 2020 DOI: 10.4103/aian.AIAN\_560\_20
2. Xiangliang Chen<sup>1,2</sup> · Sarah Laurent<sup>2</sup> · Oezguer A. Onur<sup>2,3</sup> · Nina N. Kleineberg<sup>2,3</sup> · Gereon R. Fink<sup>2,3</sup>
3. Finja Schweitzer<sup>2</sup> · Clemens Warnke<sup>2</sup>. A systematic review of neurological symptoms and complications of COVID-19: Journal of Neurology <https://doi.org/10.1007/s00415-020-10067-3>.
4. Bart W Koes.Improving the management of sciatica: The Lancet Rheumatology 2(7):e372-e373; July 2020.
5. Md Abu Bakar Siddiq<sup>1,2</sup>, Danny Clegg<sup>3</sup>, Suzon Al Hasan<sup>4</sup>, and Johannes J Rasker. Extra-spinal sciatica and sciatica mimics: a scoping review: September 2020 The Korean journal of pain 33(4):305 – 317.
6. Haider Zalzal. Diagnosis of COVID-19: facts and challenges,September 2020:New Microbes and New Infections 38:100761
7. Solaf Ali. Novel Approaches to Diagnose COVID-19. May 2020 Kurdistan Journal of Applied Research.
8. Alfredo Del Gaudio, Marco Cascella , Alessandro Vittori Sabrina Bimonte ,Paola Del Prete, Cira Antonietta Forte Arturo Cuomo, Elvio De Blasio. COVID-Pain: Acute and Late-Onset Painful Clinical Manifestations in COVID-19 – Molecular Mechanisms and Research Perspectives. Journal of Pain Research 2021:14 2403–2412.
9. Sameer Acharya, Melissa Thibault, Janette Lee, Omar Taha, Andrew J Morpurgo, Binay K Kshetree, and Kushal Regmi . COVID-19-Induced Left Sciatic Neuropathy Requiring Prolonged Physical Medicine and Rehabilitation. Published online 2021 Jun 21. doi: 10.7759/cureus.15803.
10. Franz C. *PMR on Point*. 2021. COVID peripheral nerve damage & diaphragm muscle dysfunction: what we've learned.
11. Stephani Sutherland. What We Know So Far about How COVID Affects the Nervous System.retrived from the internet at 31 of jan.2022, <https://www.scientificamerican.com/article/what-we-know-so-far-about-how-covid-affects-the-nervous-system/>