



A Report of Unprovoked Bilateral Epistaxis in Patient with Covid-19: Our Experience

**Ferguson Ayemere Ehimen^{1*}, Iboro Samuel Akpan²,
Oluwafemi Emmanuel Abidoye³, Omobamidele Benson Betiku⁴
and Kayode Olanrewaju²**

¹Department of Preventive Health Care and Community Medicine, Lily Hospital, Benin City, Edo State, Nigeria.

²Department of Family Medicine, Lily Hospital, Benin City, Edo State, Nigeria.

³Department of Occupational Health, Lily Hospital, Benin City, Edo State, Nigeria.

⁴Department of Family Medicine, Lily Hospital, Warri, Delta State, Nigeria.

Authors' contributions

This work was carried out in collaboration among all authors. Author FAE designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors ISA and OBB managed the analyses of the study. Authors OEA and KO managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/IJTDH/2020/v41i2030394

Editor(s):

- (1) Dr. Arthur V. M. Kwena, Moi University, Kenya.
- (2) Dr. Shankar Srinivasan, Rutgers - School of Health Professions, USA.
- (3) Dr. Romulo Dias Novaes, Federal University of Alfenas, Brazil.
- (4) Dr. Zhiheng Zhou, Harvard Medical School, USA.
- (5) Dr. Giuseppe Murdaca, University of Genoa, Italy.

Reviewers:

- (1) José Antonio Alvarado Moreno, Dr. Carlos MacGregor Sánchez Navarro, IMSS, Mexico.
 - (2) Mohsen Khosravi, Zahedan University of Medical Sciences, Iran.
 - (3) Arshed Hussain Parry, Sher-i-Kashmir Institute of Medical Sciences, India.
 - (4) Sepideh Paybast, Qom University of Medical Sciences and Health, Iran.
 - (5) Minoosh Shabani, SBMU (Shahid Beheshti University of Medical Sciences), Iran.
- Complete Peer review History: <http://www.sdiarticle4.com/review-history/61690>

Case Report

**Received 18 September 2020
Accepted 20 November 2020
Published 21 December 2020**

ABSTRACT

Coronavirus disease 2019 (COVID-19) is a viral disease that was first reported in China in 2019. Since it was reported, it has resulted to close to nine hundred thousand deaths globally. The symptoms and signs of COVID-19 continue to evolve on a daily basis, therefore a knowledge of the common symptoms and other new symptoms is key to early diagnosis and control of this disease.

In this report, we present a 30 year-old COVID-19 female patient, who presented with acute unprovoked epistaxis, a week after onset of symptoms (cough, malaise, fatigue) of COVID-19. Considering the evolving symptoms of COVID-19, health care personnel are advised to consider the possibility of COVID-19 in patients presenting with atypical symptoms like sudden unprovoked epistaxis especially during the pandemic period. This report further strengthens the need for more large inter-country studies to be done to completely highlight and harmonize the varying and evolving symptoms of COVID-19.

Keywords: Epistaxis; unprovoked; COVID-19.

1. INTRODUCTION

In late 2019, the first case of Covid-19 was reported in China, the disease is caused by infection with severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) [1,2,3]. Since its first report, COVID-19 has spread rapidly across the globe. The extent of its transmission globally prompted the World Health Organization On January 30th and March 11th, 2020 respectively, to declared the disease a public health emergency of international concern and a pandemic [4-6].

Globally, as on 7th of September, 2020, there are twenty-six million seven hundred sixty three thousand two hundred seventeen (26,763,217) cases of COVID-19 with close to nine hundred thousand (876,616) deaths. Of this global figure, Africa accounts for four percent of the total cases reported in the world [7]. According to the Nigeria Centre of disease control, within same period stated above, Nigeria cases of COVID-19 have risen alarmingly across all states in Nigeria [2].

According to the Centre for disease control and prevention and World health Organization, COVID-19 tends to present with varying symptoms and these clinical features are constantly being reviewed considering the fact that COVID-19 is a novel disease entity. Symptoms of the disease usually appear 2-14 days after exposure to the virus, the symptoms include; fever or chills, cough, shortness of breath or difficulty in breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting and diarrhea [1,2].

However, with the virus and clinical research moving at a swift speed, scientists are discerning more symptoms, with increasing evidence that the disease presents differently depending on the individual sociodemographic characteristics [8]. Apart from the usual symptoms of Covid-19, several other unusual symptoms have been

reported, these features varies from strokes, blood clots abnormalities, COVID toes, silent hypoxia, delirium [9,10]. Many of these symptoms remain uncommon and medical experts don't yet know if they are directly caused by the SARS-CoV-2 coronavirus.

Spontaneous epistaxis is a rare complication of COVID-19. To the best of the author's knowledge, most of the reported cases of nose bleeding associated with COVID-19 had traditional risk factors or underlying provoking factors like nasogastric tube insertion. Meanwhile, apart from the physical and medical complications of disease, COVID-19 has provoked a series of psychosocial consequences across continents, the plurality of this social consequences may present in different form and contexts; this includes stigma, discriminations, anxiety depression etc [9].

This report will broaden our understanding of the variation in the clinical features of COVID-19. Therefore, clinical dexterity and more community studies on COVID-19 remains the key to further understand the new and changing symptoms of COVID-19.

In this report, we describe a young patient, who presented with symptoms of fever, loss of taste and smell with subsequent presentation of unprovoked epistaxis from both nostrils.

2. MATERIALS AND METHODS

This investigation is based on the retrospective case review of a COVID-19 positive patient. Specific focus during analysis of this patient records was placed on (a) clinical presenting symptoms (b) results of the physical examination, investigation results. The patient was followed up after her sample came out negative to determine her social integration into the society and her place of work. This information was elicited using an in-depth questionnaire.

3. CASE PRESENTATION

A 30-year-old lady, presented with history of fever, loss of taste and smell, generalized body weakness and dry cough of 5 days duration. Fever was said to be high grade and persistent despite use of antipyretic. Anosmia and aguesia progressively worsened along with malaise, thus negatively impacting her functionality. The cough was said to occur in bouts, non-productive and without features of respiratory distress. There was no account of drenching night sweats or use of Anti-inflammatory drugs (eg, aspirin, ibuprofen, naproxen)/ anticoagulants/ antiplatelet agents (eg, warfarin, rivaroxaban, clopidogrel). Initial general and physical examination were unremarkable. Patient was suspected to be suffering from malaria considering the fact that patient was from a malarial endemic zone.

Malaria test done came out negative and the full blood count test done came out normal with only slight leucopenia. A Reverse transcriptase polymerase chain reaction (RT-PCR) test was done which confirm the presence of the SARS-CoV-2 virus and patient was immediately placed on chloroquine, Azithromycin, Vitamin C, Zinc tablet using the Nigeria Centre for Disease Control guidelines. She completed her course of antibiotics and chloroquine but remained on vitamin C and zinc (Table 1).

A week into treatment, patient started bleeding spontaneously from both nostrils. This situation was quite alarming to the patient. Worthy of note, she had no previous episode of similar symptoms, nor history of nose picking/ instrumentation and also there was no history of bleeding disorders prior to onset of bleeding.

On account of epistaxis, patient was immediately asked to sit up and relax while she leaned her body and head slightly forward to prevent the blood from running down her throat which can cause nausea, vomiting, and diarrhea. Slight pressure was applied around the *Little's area* to secure homeostasis while residual blood was cleaned. Her vital signs were monitored during this period which were within normal limits and patient was hemodynamically stable. Within 30minutes-1hour into the epistaxis episodes, the symptom resolved immediately and there was no recurrence thereafter.

On the second and third week after the initial presentation, patient's symptoms resolved, however, patient was advised for a repeat Reverse transcriptase polymerase chain reaction (RT-PCR) test for COVID-19. RT-PCR test done on the 3rd week came out positive and thus patient was advised to repeat test weekly until a negative test was gotten at 6th week post presentation (Table 2). Based on the last negative result, patient was finally discharged from isolation and counseled to resume work.

Table 1. Clinical laboratory parameters of the patient

Test	Results	Normal Range
Malaria parasite	Negative	
Full blood count		
PCV	32%	(36 - 50)
Hemoglobin	10.3g/dl	(12.0 - 16.0)
WBC	8,530/MM3	(4000 - 10000)
Neutrophil	75%	(55 - 70)
Lymphocyte	15%	(25 - 40)
Other parameter	Essentially normal	

Table 2. Chronology of PCR results

PCR	Outcome	Treatment
PCR at onset of symptoms	Positive	Patient placed on treatment
PCR done in second week (no symptom)	Positive	Patient reassured and counseled
PCR done in third week (no symptom)	Positive	Patient reassured and counseled
PCR done in fifth week (no symptom)	Positive	Patient reassured and counseled
PCR done in sixth week (no symptom)	Negative	Patient discharged from self isolation

Table 3. In-depth interview results

Questions	Response
How will you describe your experience?	<i>It was indeed a life threatening experience, I thought I would die from the sickness</i>
<i>What was your reaction immediately you saw blood coming out from your nose?</i>	<i>Immediately I told myself, probably the end has come for me. I was frightened but I was later happy when the symptoms disappeared”</i>
<i>What was the impact on your life?</i>	<i>This disease negatively affected me as I could not go to work for 6 weeks because my PCR test was always showing positive results. Psychologically I was down because I was completely isolated from the rest of the family and my colleagues”. Even after I tested negative and resumed work, my colleagues and family were still skeptical to associate with me</i>

4. DISCUSSION

COVID-19 is a viral disease with clinical features that are constantly evolving. The disease is caused by single-stranded RNA viruses that are zoonotic in nature and can cause clinical presentation ranging from those similar to common cold to more severe respiratory, gastrointestinal and neurological symptoms [11-14].

This case described the occurrence of unprovoked epistaxis (patient reported that this was her first life time experience of epistaxis) in a young female without co-morbidities. Apart from epistaxis, she presented with tiredness and difficulty performing ordinary activities such as walking, climbing stairs or carrying groceries. This case shows that one should keep in mind that unprovoked epistaxis may be a clinical feature of COVID-19 infection, presenting as an isolated early symptom, as well as other features that may develop as a complication of disease or treatment. This observation was in complete contrast to reports from World Health Organization Centre for disease control and Nigeria center for disease control where epistaxis was not mentioned as a symptom of COVID-19 [11,14].

However, our case finding was quite similar to what was described by Samba et al. [15], wherein nose bleeding was noticed among patients who were being managed for COVID-19 but the finding in his study reveals that majority of the patients only had epistaxis following insertion of Nasogastric tube and other instrument insertions. This report was unlike ours where the young female patient experienced unprovoked epistaxis without any history of nasal instrumentation.

Although our patient had unprovoked epistaxis, she was never a smoker and there was no history use of oxygen therapy. The occurrence of atypical symptoms of epistaxis was not surprising as other studies and reports have demonstrated similar findings of unusual symptoms (rashes, blood clot anomalies, and hearing loss) in patients with COVID-19 [9,10].

Furthermore, the patient had no history of use of anticoagulants or antiplatelet drugs before the onset of the sudden epistaxis, this reports contrast the observation from another study were most of the patients who had spontaneous epistaxis reported taking anticoagulants or antiplatelet prior to the onset of COVID-19 [16]. Also of note, all the patient in the aforementioned study had a risk factor of use of non-humidified oxygen therapy during their stay in the hospital, this factors have been implicated as a major cause of spontaneous epistaxis in other studies [17-19].

This report further adds to the fact that COVID-19 is a novel disease that still needs further population survey to clearly highlight all its clinical features. With this unusual characteristic presentation of epistaxis in a COVID-19 patient, health care professional all over the world must have a high suspicion of COVID-19 infection in such cases especially during the pandemic period. This facts are further buttressed considering Covid-19–associated coagulopathy (CAC) and disseminated intravascular coagulation described in most studies, where severe COVID-19 illness was reported to be associated with intense inflammation, leading to high rates of thrombotic complications. Of note, marked elevated levels of D-dimer with normal fibrinogen levels remains the hallmark laboratory findings of severe COVID-19– associated coagulopathy [20-23].

There was high concern of stigmatization and discrimination reported in this case, as patient reported being stigmatized during the process of recovery and after the RT-PCR test came negative [24-28].

This findings are quite similar to global outcry and other studies where Corona virus disease patients are subjected to stigmatization and discrimination. COVID-19 discrimination and stigmatization is a global concern that requires urgent public health and government intervention. This is quite worrisome and alarming considering the fact that this discrimination can push a lot of individuals to conceal their illness. This social exclusion if not put to check can result in geometric increase in COVID-19 cases [23,24].

This case presentation was meant to draw the attention of the world especially health care professional about the need to protect the information of the COVID-19 patient to avoid unnecessary discrimination. Also, by this report, health care workers are required to have high index of suspicion of COVID-19 when managing patient, especially those experiencing first time atypical symptoms like epistaxis (without risk factors) during this pandemic.

5. CONCLUSION

The clinical presentation in COVID-19 is relatively similar with other febrile illnesses, especially malaria and Lassa fever which is highly endemic in our region. COVID-19 should be suspected in cases presenting with fever, catarrh, cough and epistaxis especially in regions with high prevalence of aforementioned disease.

Therefore, there is need for health care professionals to be educated and updated on the current and varying pattern of COVID-19 symptoms by World Health Organization and other relevant bodies. Similarly, the report of discrimination by the patient is quite worrisome, therefore, protection and safety of people infected with COVID-19 must be enforced through relevant government policies.

6. STUDY LIMITATION/ FURTHER RESEARCH

This study would have been more robust if patients' platelets and clothing factors were known before and during the COVID-19

management and also more patient would have recruited for the in-depth interview section.

Also, other causes of epistaxis might have been explained by high D-dimer, prolongation of PT, aPTT, INR and decreased fibrinogen levels etc, which were not available.

Considering the limitation, there is need for more research to be conducted in health care settings and in communities to ascertain varying symptoms of COVID-19 infection. Furthermore, such study should be followed up with prospective studies to assess different signs and symptoms of COVID-19 disease.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

As per university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

ACKNOWLEDGEMENT

We want specially appreciate and thank the staff and management of Lily Hospitals who provided the enabling environment for this study.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. World Health Organization. 2019-nCoV outbreak is an emergency of international concern. Available: <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/01/2019-ncov-outbreak-is-an-emergency-of-international-concern> . Accessed 3 August, 2020
2. Nigeria Centre for Disease Control. Available: <https://covid19.ncdc.gov.ng/>. Accessed 29 July, 2020
3. Chen Y, Liu Q, Guo D. Emerging coronaviruses: Genome structure, replication, and pathogenesis. *J Med Virol.* 2020;92(jmv.25681):418-423.
4. World Health Organization. Declaration public health emergency of international concerns. Available: <https://www.medscape.com/viewarticle/924596> Accessed 1 September, 2020

5. WHO. WHO Director-General's Opening Remarks at the Media Briefing on COVID-19–11 March; 2020.
Available: <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19--11-march-2020>
Accessed March 12, 2020
6. Johns Hopkins Coronavirus Resource Center; 2020.
Available: <https://coronavirus.jhu.edu/map.html>
Accessed April 4, 2020
7. World Health Organization. Covid-19 situation report.
Available: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200728-covid-19-sitrep-190.pdf?sfvrsn=fec17314_2
Accessed 7th September, 2020
8. Claire Jarvis. Unusual symptoms of Covid-19.
Available: <https://www.the-scientist.com/news-opinion/the-unusual-symptoms-of-covid-19-67522>
Accessed 30, September, 2020
9. UNESCO. COVID-19-related discrimination and stigma: A global phenomenon.
Available: <https://en.unesco.org/news/covid-19-related-discrimination-and-stigma-global-phenomenon>
Accessed 15, October, 2020
10. Prince G, Sergel M. Persistent hiccups as an atypical presenting complaint of COVID-19. *The American Journal of Emergency Medicine*; 2020.
Available: [https://www.ajemjournal.com/article/S0735-6757\(20\)30274-6/fulltext](https://www.ajemjournal.com/article/S0735-6757(20)30274-6/fulltext)
11. WHO. Coronavirus; 2020.
Available: <https://www.who.int/health-topics/coronavirus>
Accessed 1 Feb 2020
12. WHO. Novel Coronavirus–China; 2020.
Available: <https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/>
Accessed 27 August 2020
13. Zhu N, Zhang D, Wang W, Li X, Yang B, Song J, et al. A novel coronavirus from patients with pneumonia in China, 2019. *N Engl J Med*; 2020.
Available: <https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>
Accessed 27 August 2020
14. Centre for Disease Control and Prevention.
Available: <https://doi.org/10.3949/ccjm.87a.ccc024>
15. Samba SRB, Tyler P, Luxman S. Epistaxis management on COVID-19–positive patients: Our early case experience and treatment. *Clin Case Rep*. 2020;1–4.
16. Valeria Dell'Era, Riccardo Dosdegani, Paolo Aluffi Valletti, Massimiliano Garzaro. Epistaxis in hospitalized patients with COVID-19. *J Int Med Res*. 2020;48(8): 0300060520951040.
17. Poiroux L, Piquilloud L, Seegers V, et al. Effect on comfort of administering bubble-humidified or dry oxygen: The Oxyrea non-inferiority randomized study. *Ann Intensive Care*. 2018;8:126. [PMC free article] [PubMed] [Google Scholar]
DOI: 10.1186/s13613-018-0472-9
18. Miyamoto K, Nishimura M. Nasal dryness discomfort in individuals receiving dry oxygen via nasal cannula. *Respir Care*. 2008;53:503–504. [PubMed] [Google Scholar]
19. Strumpf DA, Harrop P, Dobbin J, et al. Massive epistaxis from nasal CPAP therapy. *Chest*. 1989;95:1141. [PubMed] [Google Scholar]
20. Zhou F, Yu T, Du R, et al. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: A retrospective cohort study. *Lancet*. 2020;395(10229):1054–1062.
DOI: 10.1016/S0140-6736(20)30566-3
21. Wu C, Chen X, Cai Y, et al. Risk factors associated with acute respiratory distress syndrome and death in patients with coronavirus disease 2019 pneumonia in Wuhan, China. *JAMA Intern Med*. 2020;180(7):e200994.
DOI: 10.1001/jamainternmed.2020.0994
22. Guan WJ, Ni ZY, Hu Y, et al. China Medical Treatment Expert Group for Covid-19. Clinical characteristics of coronavirus disease 2019 in China. *N Engl J Med*. 2020;382(18):1708–1720.
DOI: 10.1056/NEJMoa2002032
23. Simon Mucha, Siddharth Dugar, Keith McCrae, Douglas Joseph, John Bartholomew, Gretchen L. Sacha, et al. Coagulopathy in COVID-19: Manifestations and management. *Cleveland Clinic Journal*. 2020;87(8):461-468.
Available: <https://doi.org/10.3949/ccjm.87a.ccc024>

24. Devakumar D, Shannon G, Bhopal SS, Abubakar I. Racism and discrimination in COVID-19 responses. Available: <https://europepmc.org/article/pmc/pmc7146645> Accessed 28/8/20
25. White AIR. Historical linkages: Epidemic threat, economic risk, and xenophobia. *Lancet*; 2020. (Published online March 27) DOI: 10.1016/S0140-6736(20)30737-6
26. British Broadcasting Corporation (BBC). Covid-19 stigma: Property for fear of coronavirus. Available: <https://www.bbc.com/pidgin/tori-52211995> Accessed August 28, 2020
27. International Organization for Migration. COVID-19 Analytical Snapshot #6: Stigmatization & discrimination. Available: <https://www.iom.int> Accessed August 28, 2020
28. International Federation of Red Cross, UNICEF, World Health Organization. Social Stigma associated with COVID-19. Available: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiCyrWnxL3rAhVkleAKHfC8BHEQFjAAegQIBBAB&url=https%3A%2F%2Fwww.unicef.org%2Fdocuments%2Fsocial-stigma-associated-coronavirus-disease-covid-19&usg=AOvVaw3Jt_DTbF3FirGLPidl-410 Accessed 28th August, 2020

© 2020 Ehimen et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
<http://www.sdiarticle4.com/review-history/61690>