

Editorial

Extrapulmonary Manifestations of COVID-19: A Call to Extra Vigilance and Tribute to Dr Li Wenliang

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ABSTRACT

COVID-19 pandemic has covered all continents and virtually all countries of the world infecting millions of people with several hundred thousands of death. It was first brought to the attention of a Chinese ophthalmologist Dr Li Wenliang. The disease which was first believed to be solely associated with the lungs and respiratory system has now shown that the spectrum of organ involvement of the disease is much larger than earlier believed. While lung and pulmonary features still account for a much larger presentation of the disease, other clinical manifestations such as fulminant myocarditis, arteriovenous thromboembolism, disseminated intravascular coagulopathy, intracerebral haemorrhage, diarrhea, hypoxic encephalopathy, septicaemia and detection of SARS-CoV-2 particles in stool, saliva and semen of infected individuals are also becoming less infrequent. Haematologic manifestations of hypercoagulable blood are commonly reported among hospitalized COVID-19 patients. An elevated D-Dimer, that is rising in the course of disease may signify disease deterioration. Prolonged PT and aPTT and increased fibrin degradation products with severe thrombocytopenia have been associated with life threatening disseminated intravascular coagulation (DIC). Physicians should therefore be on a watch out for these features in the management of patients and be ready to spot out other new surprises by the disease. This should be through deepening of curiosity by health personnel in the assessment and management of patients to spot out early surprises of COVID-19 to strengthen the sustenance of the ongoing control of the pandemic

Keywords: COVID-19, Extra-pulmonary, Presentations, Li Wenliang, SARS-CoV-2

BACKGROUND

It was Dr Li Wenliang an Ophthalmologist in the city of Wuhan famous for strong clinical judgments among

colleagues that first raised an alarm of new respiratory virus disease on 30th December 2019. In his group chat he wrote “A new coronavirus infection has been confirmed and its type is being identified. Inform all family and

relatives to be on guard,” and the disease eventually took his life at the age of 34 years. Li contracted SARS-CoV-2 infection while treating an infected glaucoma patient and was hospitalized on 12th January, 2020, and later on moved to ICU. His last post from ICU publicly declaring his COVID-19 result “*Today my test has come back positive, the dust has settled, I have finally been diagnosed.*” came on February 1st 2020, shortly after which his ventilator was disconnected due to rapid irreversible deterioration!. As at 8th of May, 2020, COVID-19 has infected over 3.85 million people with at least 270,000 deaths globally, and in Nigeria the official infection rate stands at 3,526 people with 107 deaths¹⁻³.

Usual Presentations

At the outset COVID-19 was generally believed to be a respiratory disease as almost all patients presented with pulmonary symptoms and clinical investigations primarily targeted the lungs and the respiratory system presenting with dry cough, chest pain and difficulty in breathing. The common radiologic and computerized tomographic features include: peripheral patchy lesions or consolidation, halo signs, air bronchogram sign, patchy ground glass opacity among others. This belief has led to the deployment of all prognostic and disease monitoring apparatuses targeting the lungs and respiratory system with little attention towards monitoring of other organ systems that may be as well seriously damaged. This could explain the reason why ventilators often fail to revive some severely ill in ICUs as the underlying pathologies may be extra-pulmonary.⁴⁻⁸

Extra-pulmonary and Unusual Presentations

COVID-19 can present in form of nasal congestion and loss of smell, sore throat, muscle pain and malaise. In a study carried out in China it was found that diarrhea is also not an uncommon finding in SARS-CoV-2 infections. Other clinical features such as mild fever and headache could easily be diagnosed and treated as malaria or one of the enteric fevers especially where there is concurrent blood smear positive for malaria and high widal tests titres

as well.⁹⁻¹¹ The situation may become compounded when there are no facilities to quickly screen such patients and establish early diagnosis as is the case in most parts of Nigeria and entre sub-saharan Africa, hence fueling uninterrupted community spread of COVID-19.¹²

Other studies have shown that COVID-19 patients have presented with the following clinical patterns: fulminant myocarditis, venous thromboembolism, diarrhea, intracerebral haemorrhage, hypoxic encephalopathy, septicaemia, detection of SARS-CoV-2 particles in stool, saliva and semen of infected individuals¹³⁻¹⁷. This may not be the end of the list as other forms of unusual and extra-pulmonary presentations of COVID-19 are probably still ahead.

Haematologic manifestations of hypercoagulable blood is commonly reported among hospitalized COVID-19 patients. An elevated D-Dimer, that is rising in the course of disease may signifies disease deterioration.²⁰ Prolonged PT and aPTT and increased fibrin degradation products with severe thrombocytopenia have been associated with life-threatening disseminated intravascular coagulation (DIC).²⁰

It has also been established in many reports that COVID-19 infected patients, whether hospitalized or ambulatory, have very high risk of venous thromboembolism, the reports also recommend early and prolonged thromboprophylaxis with low molecular weight heparin.

Isolation of SARS-CoV-2 in stool samples clearly shows that environmental sanitation requiring eradication of surface and open air defaecation has become mandatory along with defaecation in trenches and canals before community spread of the disease can be halted. Also its presence in the saliva of asymptomatic carriers brings up the needs to health educate on implications on some of the social practices such as kissing in this wave of COVID-19. In the same vein detection of SARS-CoV-2 in semen potentially could lead to sexual transmission of the virus, and its short and long term impacts on sperm count and fertility of infected individuals need to be ascertained. Adequate sex education may therefore be needed in the global campaign package against COVID-19.^{18,19}

Presentations of cardiac, hepatic, vascular, cerebrovascular, nephritogenic, and gastrointestinal pathologies at specialty as well as Primary Health Care (PHC) clinics should not be taken in isolation during this period of COVID-19 pandemic and possibly in the foreseeable future. COVID-19 status of such patients should be clearly established to rule out remote possibilities of any association.

In conclusion while it appears we may have known so much about SARS-CoV-2 over a very short period of time, the scientific world should be open to surprises that may be thrown up by this same virus as it appears more still needs to be known. Medical doctors and other health professionals should sharpen their curiosity in patient assessment and management so as to detect early some of the evolving unusual presentations of the disease to strengthen control of the pandemic. A strong sense of clinical judgment as displayed by late Dr Li Wenliang which alerted the world of a pending catastrophe should be demonstrated by all health professionals in this 21st century to guarantee continuous human existence on the planet.

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