Skin Manifestations of COVID-19

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Abstract

Coronavirus is a zoonotic RNA virus that cause respiratory infection, from the Coronaviridae family. They were first isolated in 1937 and designated coronaviruses, because they have a crown-like appearance under microscopy. The clinical spectrum of this disease is quite broad, ranging from a cold to severe pneumonia. Usually, patients develop signs and symptoms such as fever and respiratory illness. As it is a systemic disease, it is also related to the skin. Some clinical manifestations have been described, such as petechiae rash, urticaria, livedo reticular. In this article we have the objective to explain more about this clinical scenario.

Keywords: Covid-19 • Skin manifestations • Petechiae rash • Urticaria

Introduction

Corona Virus is a zoonotic RNA virus that cause respiratory infection, from the Coronaviridae family. They were first isolated in 1937 and designated corona viruses, because they have a crown-like appearance under microscopy [1]. In December 2019, the initial cases of COVID-19 were reported in China. Currently, this infection has become a pandemic and significant researches are taking place all over the world in order to understand the transmission, physiopathology, clinical manifestations, treatment and prevention measures (Figure 1).

Figure 1: This illustration, created at the centers for disease control and prevention, reveals ultrastructural morphology exhibited by Novel Coronavirus.

Clinical manifestations

The clinical spectrum of this disease is quite broad, ranging from a cold to severe pneumonia. Usually, patients develop signs and symptoms such as fever and respiratory illness [1,2]. Isolated sudden onset anosmia ha salso frequently been reported. Less frequently, rhino rhea, diarrhea and dysgeusia may be associated.

It has been understood that the COVID-19 is responsible for thrombotic complications.

Preliminary reports on COVID-19 pandemic outcomes have shown that infected patients commonly develop thrombocytopenia (36.2%) and may have elevated D-dimer (46.4%) [3,4]. It can be explained by the excessive activation of the coagulation cascade and platelets, endothelial dysfunction, von Willebrand factor elevation, Toll-like receptor activation and tissue factor pathway activation [5].

Skin manifestations

Regarding the skin, some clinical manifestations have been studied and are connected to COVID-19. For instance, as many patients present with a clinical scenario of thrombocytopenia, they can develop a petechiae skin rash. In a study in Thailand, there were 48 cases of COVID-19, and one patient developed a skin rash with petechiae. Because dengue is very common in their setting, as well as in Brazil, a clinical diagnosis of dengue was made. A few days later the patient developed respiratory problems and was diagnosed with COVID-19, resulting in a delayed diagnosis [6].

Furthermore, it was described some few cases of erythematous rash, urticaria, and vesicules. These manifestations can appear before the diagnosis of COVID-19 or at the same time. It usually appears in middle-age adults [7].

Another manifestation is the live do reticular, in which there is mottled discoloration of the skin. It is described as being a reticular cyanotic discoloration that surrounds pale central skin. It usually appears in the trunk and extremities of serious patients. It is more common in the end stage of the disease (Figures 2-4) [8-10].

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Conclusion

A better understanding of the implications of COVID-19 is still needed. It is important to know that skin manifestations can present before, during and after the disease and it has been associated with the patient’s prognosis.

References