

Coccidioidomycosis as a Mimic Disease in Patients with COVID-19, Update

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ABSTRACT

In recent years, little has been studied about coccidioidomycosis, however, after the start of the COVID-19 pandemic, it has been one of the diseases in which it has been considered one of the relevant lung diseases since it can mimic symptoms. Similar to different diseases such as lung cancer, skin diseases, but more importantly COVID-19, a disease that we are still studying. For this reason and the fact that we are in the area where we can most commonly find it, in recent years it has been studied in greater depth, as well as improving the efficiency of diagnosis and treatment.

Keywords: COVID-19; Coccidioidomycosis; Lung cancer; Skin diseases; Diagnosis

INTRODUCTION

Currently, the way in which this disease will be affecting the population, hospital costs and ways in which it can be spread, as well as the environment in which it can develop and how to appear in places where previously it was not considered an area, has been studied. Endemic like Northwestern Mexico, George R and his companions have discovered that a way to infect the host, one of the latest hypotheses is that mammalian animals are carriers of this disease without presenting any type of disease and once as this spore dies the organism settles in the environment. Another of the situations that they mention is that in the last 20 years coccidioidomycosis has been increasing, however it persists in underdiagnosed diseases, since of 100% of these, 66% are not diagnosed and less than 1% have fatal complications, especially in places with little accessibility to the medical area or with the necessary methods for an early diagnosis. One of the reasons that they mention that coccidioidomycosis was associated with COVID-19, is that one of the drugs with which it was treated were steroids, as well as pregnancy, race genetic deficiency, which demonstrated that it immunosuppressed the host and could both presenting coccidioidomycosis for the first time, or was exacerbated if the patient had already had a previous exposure to some species of *Coccidioides* spp. For, also, one of the most alarming situations and that generates concern about the increase in cases is climate change, since coccidioidomycosis is found in places with high temperatures since it survives at temperatures of up to 37°C, and thanks to this change. There will be an increase in the spread of the disease and the area in

which it is currently found. Something that generates controversy is that those patients who use cannabis as a treatment for different types of diseases have a 3.5 times greater risk of suffering from it.

DESCRIPTION

In another study with 174 patients, who attended the consultation for possible COVID-19, a survey was made to the doctors asking them how frequently they performed tests for coccidioidomycosis, in which it was shown that both before and after the pandemic There was only a 1% increase in the difference in the performance of the test, from 35% to 36% for coccidioidomycosis. Something that made them consider carrying out this test was abnormal imaging in studies, two negative SARS-CoV-2 tests.

We know that coccidioidomycosis is one of the great imitators; it has been thought that 14 days to 21 days can pass from the day of onset of symptoms to reach an accurate diagnosis. Elise F Nassif mentions in a case report that in a patient After suffering from COVID-19, a chest tumor was detected by tomography, mainly thought of as a type of liposarcoma, since it resembled its symptoms, however at the time of performing the required biopsy it was shown to be coccidioidomycosis and not cancer, as was thought from the beginning, something that jumped out at him was the increase in IgE in his laboratories, another piece of information that helps confirm other references was the use of steroids in this patient.

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Another of the updates was to demonstrate the main symptoms associated with coccidioidomycosis, diagnosis was made by immunoassay, in a study of 113 patients where patients treated intrahospitality as well as at home were admitted, the results were that fever was the most representative symptom, since the possibility of diagnosis increased by 64%, in the same way, it was decreased to approximately 14 days from day 1 of symptoms, however, they mention that it could be slightly biased because they were patients at the hospital where the study was carried out.

Within this same range of study, a comparison was made between COVID-19 and coccidioidomycosis in another study since a patient presented skin lesions, and this is one of the main complications of the patient with coccidioidomycosis, however it was considered that when presenting cough dry skin and rash, a COVID-19 test was performed, being negative, but for pandemic reasons it was considered the first diagnosis, since it is thought that an exaggerated hypersensitivity reaction of the immune response occurs, either by direct inoculation or by dissemination.

In another study with 174 patients, who attended the consultation for possible COVID-19, a survey was made to the doctors asking them how frequently they performed tests for coccidioidomycosis, in which it was shown that both before and after the pandemic. There was only a 1% increase in the difference in the performance of the test, from 35% to 36% for coccidioidomycosis. Something that made them consider

carrying out this test was abnormal imaging in studies, two negative SARS-CoV-2 tests.

One of the most recent studies was FDG-PET/CT performed for COVID-19 and other lung infections, although we know that it is not the first study modality for these diseases, with this we can identify early infection and inflammation with early sensitivity, in the patient with COVID-19, showed that early images of an infection by this virus can be presented by radiological patterns even if the patient was symptomatic, in patients already immune protected by the vaccine, they presented changes at the level of lymph nodes a few days after having been vaccinated for SARS-CoV-2, and even more surprising for patients with coccidioidomycosis, despite the fact that it was considered difficult to differentiate from any malignancy, this had a lower standardized value for coccidioidomycosis than for cancer, which is why it is still used. Considered an important part for the realization as a differential diagnosis.

CONCLUSION

In this way we will be able to realize that coccidioidomycosis continues to be a relevant disease, which persists in limbo in medicine and which is not yet considered as a possible differential diagnosis from the onset of a lung disease as a first instance, however, studies have been carried out. Further studies to make a faster and more accurate diagnosis.