v. 3, n. 23, 2023

International Journal of Health Science

CASE REPORT: ENCEPHALITIS AFTER COVID-19 DIAGNOSIS

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Abstract: Introduction: At the end of 2019, the Covid-19 pandemic began, a severe acute respiratory infection caused by the coronavirus. Encephalitis is defined by inflammation of the brain parenchyma with neurological dysfunction that can be caused by infection or autoimmunity, it should be suspected when there are symptoms or signs of neurological dysfunction that present acutely. There are already studies in the medical literature that seek to correlate the covid-19 infection with the onset of encephalitis, which could indicate a possible causal relationship between the two conditions. Objective and case report: This study aims to report the case of a 42-year-old male patient who was diagnosed with encephalitis one week after the onset of COVID-19. The case report was carried out based on a review of medical records and correlation with the literature. Conclusion: There are other cases of encephalitis described after or concomitantly with the Covid-19 infection, thus pointing to the need to publish new studies on the subject so that eventually the presence of a causal relationship between the two pathologies can be proven or refuted.
Keywords: Encephalitis; COVID-19; SARS-COV-2.

INTRODUCTION

At the end of 2019, the Covid-19 pandemic began, a severe acute respiratory infection caused by the coronavirus. The virus has genetic material consisting of single-stranded RNA capable of invading tissues of the respiratory system and has also been observed in the central nervous system (AHMAD; RATHORE, 2020). Encephalitis is defined by inflammation of the brain parenchyma with neurological dysfunction that can be caused by infection or autoimmunity, it should be suspected when there are symptoms or signs of neurological dysfunction that appear acutely (24-72h). Brain imaging tests should

be ordered, which are recommended before lumbar puncture for cerebrospinal fluid analysis when elevated intracranial pressure is suspected.

CASE REPORT

The 42-year-old male patient, with a previous diagnosis of COVID-19, sought hospital care with a clinical picture of severe headache for 1 week. Upon admission, the patient developed mental confusion and right hemiparesis. Cerebral magnetic resonance imaging was performed, showing multiple hyperintense foci in T2 nonspecific flares suggestive of inflammatory processes. CSF puncture was then performed, which showed a slight increase in cellularity with predominance of lymph nodes and normal protein and glucose, suggestive of viral meningitis. Initial treatment was based on neurointensive care and initiation of corticosteroid therapy. The patient evolved with neurological worsening with lowered level of consciousness, requiring orotracheal intubation. Empirical treatment with antibiotics and antifungals was performed.

DISCUSSION

There are already studies in the medical literature that seek to correlate the covid-19 infection with the onset of encephalitis, which could indicate a possible causal relationship between the two conditions.

Several studies have tried to find the SARS-CoV-2 viral RNA in the cerebrospinal fluid, but only a few have been successful. This low detection rate is probably due to the low viral load present in the cerebrospinal fluid. In addition, other findings contribute to the diagnosis of encephalitis due to viral causes, such as the presence of inflammatory markers, proteinorrhachia or slightly increased cellularity, as found in the case described (COSTA et al, 2021).

The treatment of severe viral encephalitis is usually based on neurointensive care and the use of corticosteroids (CARAMANTI et al, 2015). In the case described, the patient had an unfavorable evolution with an increase in intracranial pressure refractory to all measurements taken.

In the medical literature, there are more and more case reports relating neurological manifestations to COVID-19. In one study, researchers observed the presence of the virus in frontal lobe tissue during post-mortem examination of an individual with SARS-CoV-2 (PANIZ-MONDOLFI et al, 2020).

CONCLUSION

As COVID-19 is a new disease, much remains to be learned about its neurological manifestations and the association between encephalitis and COVID-19. There are other cases of encephalitis described after or concomitantly with the COVID-19 infection, thus pointing to the need to publish new studies on the subject so that eventually the presence of a causal relationship between the two pathologies can be proven or refuted.

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