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Letter to the Editor

Affection of the pituitary gland expands the spectrum of Neuro-COVID

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We eagerly read the article by Taneja *et al.* about a 74 years old female with COVID-19 since one week prior to admission for headache^[1]. Headache was due to apoplexy of a pituitary adenoma, requiring trans-nasal emergency resection with a beneficial effect^[1]. The study is appealing but raises concerns that require discussion.

There is a discrepancy between the introduction and the case description^[1]. According to the introduction the patient had severe COVID-19 but in the case description the patient had only “mild respiratory symptoms” respectively was only “minimally symptomatic for COVID-19”^[1]. This inconsistency should be solved.

We do not agree that the patient had no significant neurological deficit on admission. The patient was admitted for headache which is a neurological symptom and frequently causes neuropsychological deficits.

Affection of the pituitary gland due an infection with SARS-CoV-2 has been repeatedly reported. A 27 years old male developed hypophysitis two weeks after onset of COVID-19^[2]. A 60 years old female had developed hypophysitis 10 days after onset of COVID-19^[3]. Pituitary apoplexy had been reported in a 55yo male with visual impairment and oculomotor nerve palsy six days after onset of COVID-19^[4]. Pituitary apoplexy had been reported in at least 12 other patients. Whether apoplexy of the pituitary gland in COVID-19 patients occurs more frequently among those with an adenoma is unknown, but is quite likely given that at least four of the 14 so far reported cases had a macro-adenoma.

Missing is the information if the adenoma had been diagnosed already prior to the SARS-CoV-2 infection or not. Most likely the patient had a pre-existing pituitary adenoma in which an ischemic stroke occurred, possibly due to COVID-19 associated hypercoagulability. Ischemic stroke is a known complication of SARS-CoV-2 infections and has been repeatedly reported as a complication of COVID-19^[5]. Whether pituitary adenoma favour the development of stroke in conjunction with a COVID-19 infection is unknown but conceivable.

Multiple sclerosis (MS) in a 74 years old female is quite unusual. We should know when MS was diagnosed and upon which criteria. Neither the MRI in figure 1 nor the MRI in figure 2 shows radiological features of MS. We should know the type of MS that was diagnosed and if the index patient was under an immunosuppressive treatment when she experienced COVID-19. Knowing the current treatment in the index patient with COVID-19 is crucial as immunosuppression may favour the development of COVID-19^[6].

Overall, the interesting report highlights that COVID-19 can be associated with apoplexy of a pituitary adenoma. To establish a causal relation between the infection and the pituitary stroke further studies are warranted.

Declarations

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