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therapy is essential and has to be guaranteed even in circumstance such as the COVID-19 pandemic.

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119915

The effect of virtual learning on seizure control among epilepsy patients in Saudi Arabia

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Background and aims

The COVID-19 pandemic has resulted in multiple precautions to control the infection. One of which is transforming student's schools into virtual classrooms. This study aimed to determine the effect of virtual learning in seizure control among epilepsy patients.

Methods

This is an online-based cross-sectional study that performed between 17 February and 27 June 2021 among patients with epilepsy who attend virtual learning classes. We included all patients aged between 12 and 30 years and living in KSA.

Results

A total number of 70 patients were included in the study. The participants' gender was nearly equally distributed between the two groups with females predominant (51%). Before the pandemic of COVID-19, only seven patients reported an average number of times of seizures experienced per year, while during the pandemic of COVID-19, the number were increased to 14 patients. More than half of the patients reported an increased levels of anxiety and stress due to the pandemic (43, 61.4%), and forty patients have complained of sleep disturbances due to the pandemic of COVID-19 (57.1%).

Conclusions

Virtual learning has increased the seizure frequency in a subset of patients with photosensitive epilepsy as they are spending more time on devices.

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119916

Immunization related focal neurological syndrome after coronavac vaccination

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Background and aims

We report patients with focal neurological symptoms after receiving inactivated virus vaccine, CoronaVac (Sinovac Biotech, China).

Methods

Patients who reported acute focal neurological syndrome to the hospital post vaccination surveillance program were studied.

Results

Among 13,194 individuals who received first doses and 4,064 second doses of the CoronaVac, 49 (0.37%) reported focal neurological symptoms. Patients were age 24–48 years and 90% were female. Unilateral sensory disturbance was the most frequent symptom (92%). 66% occurred at the same side of injection. The sensory symptoms typically started in the hand and progressed to ipsilateral arm and face and/or leg. Four patients had significant hemiparesis on physical examination. Headaches were reported in 61%. Onset of symptoms was within 24 hours after vaccination in 70% and within 7 days in all. Symptom duration most commonly was for 2–4 days and resolved within 2 weeks. Of the 49 cases, 8 presented to the emergency department and received further investigations. MRI and MRA of the brain were normal in all 8 patients. Regions of hypo perfusion and concurrent smaller regions of hyper perfusion contralateral to the symptomatic side on brain SPECT imaging were seen in all studied cases while symptomatic.

Conclusions

We propose the term Immunization Related Focal Neurological Syndromes (IRFN) for this novel clinical entity. The transient nature of the symptoms, progressive sensory impairment involving the typical areas of migraine aura together with abnormal findings on SPECT suggest cortical spreading depression as a contributing mechanism of this syndrome. Further investigations are required to understand the pathophysiology of this condition.

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119917

Cerebral amyloid angiopathy – Related inflammation after COVID-19 vaccination: Case or causality?

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Background and aims

Cerebral amyloid angiopathy (CAA) is characterized by microangiopathy with increased susceptibility to hemorrhages. Some patients may develop an inflammatory form presenting with focal deficits, seizures and alterations of vigilance (CAA-related inflammation episodes-CAA-ri). To report on clinical and biological findings of a case of CAA-ri after COVID-19 Tozinameran vaccination.

Methods

CSF exam and brain MRI were done.

Results

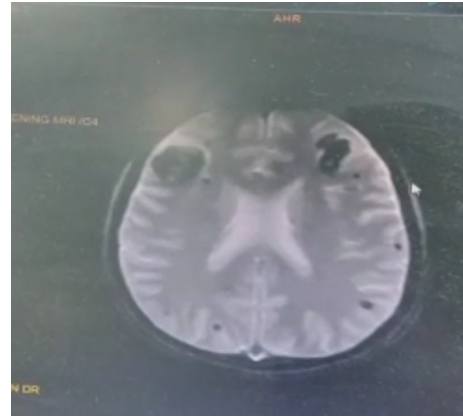
A 77 year-old male with recent brain hemorrhage in an established probable CAA presented to ER for fever and confusional state 14 days after Tozinameran first dose vaccination. Neurological examination found the patient alert, confused, with hypertonia and action tremor but no meningeal signs. Blood investigations revealed inflammation without microbiological findings. CSF study showed increased proteins, lymphocytic pleocytosis (122 cells/uL) and mirror pattern. CSF Beta42 amyloid level was reduced (158 ng/L), t-Tau level increased. ApoE haplotype resulted E3/E4. The patient had refractory convulsive status epilepticus. MRI confirmed known subacute occipital hemorrhage, multiple microbleeds and occipito-

parietal and frontal white matter vasogenic oedema. After a diagnosis of probable CAA-ri, high dose steroid therapy was started followed by clinical improvement and CSF normalization. Anti SARS CoV 2 antibodies were found in serum and CSF before and after steroid therapy.

Conclusions

Following Tozinameran vaccine, a patient with probable CAA developed a systemic inflammation with neuroimaging signs of CAA-ri and persisting positive CSF anti-spike protein antibodies. We suggest that systemic inflammation evoked by anti-COVID vaccination may have induced CAA-ri in a patient with sub acute intracerebral hemorrhage. Cross-reaction of anti-spike antibodies with endothelial antigens in amyloid microangiopathy should be further studied.

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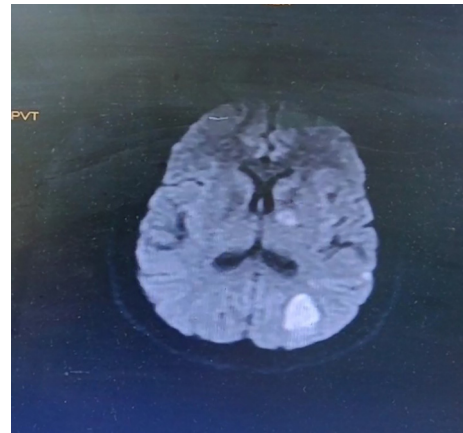
119918

Neurological manifestations in patients with COVID-19 affected with black fungus “mucormycosis”: India

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Background and aims

To investigate various neurological manifestations in patients with COVID-19 affected with mucormycosis



Methods

We analysed details of patients with mucormycosis and COVID-19, admitted in Sri Ramachandra Hospital, Chennai from June 1, 2021 to July 10, 2021 who developed various neurological features. We collected and analysed demographic features, severity of COVID, comorbidities, treatment received, neurological manifestations that were present.

Results

Overall, 22 cases of mucormycosis have been reported in COVID patients, of which 11 cases had various neurological manifestations. Analysis showed most commonly affected were males (7(63.6%)), preexisting diabetes was present in (9(81%)) cases. Various neurological features included were intracranial bleeds (2(18.2%)), orbital involvement (5(47%)), stroke (3(27.3%)), PRES (Posterior reversible encephalopathy) (1(9.1%)), cerebritis (2(18.2%)), cavernous sinus thrombosis (2(18.2%)). Surgical debridement was done in 7 patients (63%), 2 patients died (18.2%) and 2 patients (18.2%) discontinued the treatment.

Conclusions

Mucormycosis have been reported more from India. Mucormycosis in COVID-19 patients associated with various neurological features, due to direct invasion and systemic inflammatory syndrome. Conclusion in our study was, majority of patients had orbital apex syndrome, followed by stroke. Patients with intracranial bleed and large vessel stroke had fatal outcome. Early surgical intervention had good outcome. Patient who had