Neuro-imaging manifestations in hospitalized Covid-19 Patients - causal or coincidental

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Abstract:

Background and Objectives: Covid -19 is a respiratory infection with increasing evidence of neurological manifestations. This study aims to enlist the neuroimaging features that were detected in COVID-19 patients and to study the site of involvement in hospitalized covid-19 patients.

Materials and methods: A retrospective cross-sectional time-bound (period) study was conducted analyzing all the neuro-imaging studies (CT/MRI brain) of patients from June 2020 to February 2021 who were positive for Covid-19 with indication of acute neurological symptoms during their hospital stay.

Results: A total 121 COVID positive patients with neurological symptoms underwent imaging studies (CT and MRI). Among the 109 patients included in the study, the most common presentation was altered sensorium (38.5%) and the most common imaging diagnosis was acute/early subacute infarcts (29.4%), followed by acute intraparenchymal haemorrhage (9.2%), Subarachnoid haemorrhage (1.8%), Subdural haemorrhage (0.9%), Pachymeningitis (0.9%), Posterior reversible encephalopathy (0.9%) and metabolic encephalopathy (0.9%). Hemispheric, Posterior fossa, basal ganglia involvement was seen in cerebro-vascular accidents.

Conclusion: This study provides information regarding the variety of neuro-imaging findings in COVID-19 patients. The most common neuro-imaging finding in our study was ischemic stroke, predominantly with large vessel involvement and with supratentorial hemispheric, basal ganglia and infra-tentorial posterior fossa involvement.

Key words: Covid -19, ischemic stroke, intraparenchymal haemorrhage, subarachnoid haemorrhage.