

Cerebral venous thrombosis after COVID-9 infection: case report

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Abstract

Background: Cerebral venous thrombosis is a stroke that affects the veins and sinuses of the brain and could be promoted by para-meningeal and systemic infections, like COVID-19.

Material and methods: case report study.

Results: A 29-year-old female admitted with complaints of blurred vision, headache, general weakness, dizziness. The disease started acutely, 3 days before the hospitalization and 2 days after the discharge from infectious diseases facility due to SARS-COV-2 infection, with “blurred” vision, “thunderclap” headache with nausea, vomiting and diarrhea, generalized tonic-clonic seizure. From the past history was mentioned a medical abortion at 20 years, migraine with aura, 10 years use of oral contraceptives, COVID-19 infection confirmed 15 days before. CT-angiography of the brain revealed the partial occlusion of the transverse sinus on the right. A set of general laboratory analyses was performed to establish the procoagulant status: Protein S – 141% (70 – 130%), Protein S – 50% (57 – 53%). Thus, the patient has several risk factors that could promote a prothrombotic process: recent COVID-19 infection, history of use of oral contraceptives, S protein deficiency and migraine with aura.

Conclusions: The coexistence of several risk factors in a young patient increases the risk of developing cerebral venous thrombosis. The SARS-COV-2 infection may be involved in triggering the procoagulant cascade in such patients. The most common symptom reported by patients at the onset of cerebral venous thrombosis is headache, followed by seizures and neurological deficits.

Key words: COVID-19, cerebral venous thrombosis, stroke.

Clinical features of cerebral venous thrombosis based on a series of 50 cases

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Abstract

Background: Cerebral venous thrombosis (CVT) is responsible for approximately 1% of all strokes. Diagnosis is often delayed due to non-specific clinical features and the subacute course of the disease. We aimed to analyze the clinical pattern of patients with CVTs in a tertiary neurological hospital.

Material and methods: The study included patients with CVTs, admitted to the Institute of Neurology and Neurosurgery between 2008 and 2021. The diagnosis was confirmed by MRI and/or CT-angiography images.

Results: Totally 50 patients with CVTs were included, with a median age of 45.3 years, 27 females. The venous infarct was noticed in 13, subarachnoid hemorrhage – in 7, and no cerebral parenchymal lesion was seen in 25 cases. The thrombus occluded superior sagittal sinus (23), transvers sinus (18), cavernous sinus (16), cerebral veins (3). In 16 patients there were multiple venous sinus involvement. Risk factors were present in 34 cases: infections (22), prothrombotic states (6), puerperium (4), cancer (4), oral contraceptives (3), head injury (3), autoimmune disease (1). In 7 cases multiple risk factors were noticed. The most common clinical features were: the abrupt onset (34), intracranial hypertension (33), headache (29), focal deficit (18), visual loss (13), epileptic seizures (8). 5 patients (10%) died. 27 patients were prescribed anticoagulants and 5 patients received modified Rankin score 0 at discharge.

Conclusions: Young adults with new onset headache, visual loss or other focal lesions should be evaluated for CVT in order to avoid severe consequences and long-term disability.

Key words: cerebral venous thrombosis, stroke, prothrombotic state.