Apraxic agraphia as clinical presentation of a thalamic monolateral venous infarction: a case report

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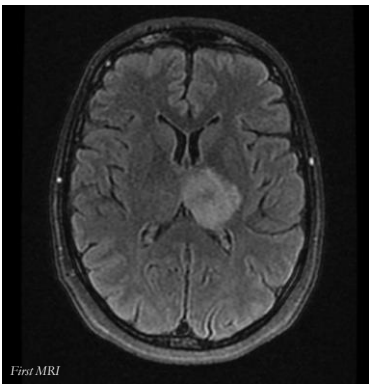
Objective

Apraxic agraphia is a disorder characterized by impaired motor planning for writing, despite preserved spelling abilities. It manifests as hesitant, incomplete, or illegible handwriting, typically resulting from lesions in the parietal and frontal lobes, thalamus or cerebellum.

Materials and methods

We analyzed the case of a 52-year-old woman admitted to our clinic. She presented to the emergency department with a severe headache, partially responsive to Ketoprofen, and a writing disorder. Her medical history was unremarkable except for hypertension. She was a nonsmoker and was undergoing estroprogestinic therapy. No history of abortions was reported.

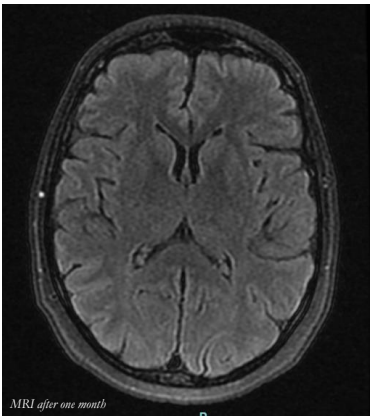
At the first neurological evaluation, the patient exhibited weakness in the right upper limb, occasional anomia, and writing difficulties, with no issues in reading. A brain CT and CT angiography showed a left thalamic lesion, without signs of deep vein thrombosis or major arterial dissection. A hyperdense linear alteration in the right lateral ventricle raised suspicion of impaired venous outflow. A contrast-enhanced brain MRI and thrombophilia screening were subsequently requested.



First MRI

Results

MRI revealed parenchymal distress in the left thalamus, with hemoglobin degradation products suggesting venous infarction. Laboratory tests showed normal levels of protein C, protein S, antithrombin and homocysteine, and no evidence of lupus anticoagulant or antiphospholipid antibodies. The Factor V Leiden mutation was absent, but the patient was homozygous for the rare c.*97G>A variant in the factor II gene. The clinical significance of this mutation remains uncertain due to limited data.



MRI after one month

Discussion

Cerebral venous thrombosis (CVT) is classified into superficial (SCVT) and deep (DCVT) forms. DCVT, accounting for about 10% of cases, affects internal and basal cerebral veins, the vein of Galen, and the straight sinus. The variability in venous drainage makes it difficult to predict outcomes, leading to diverse clinical presentations.

Unilateral thalamic infarction, though rare, has been documented in the context of unilateral internal cerebral vein thrombosis, with left-sided thromboses being more frequent.

The neuroradiologist recommended a follow-up MRI to assess lesion progression, considering a differential diagnosis of an evolving lesion.

Following anticoagulation with heparin, the patient's neurological symptoms resolved. Warfarin therapy was subsequently initiated, and she was referred to an anticoagulation clinic.

Conclusion

One month later, follow-up MRI demonstrated a reduction of the thalamic lesion, confirming the clinical improvement. This underscores the diagnostic and therapeutic challenges of CVT and the importance of prompt neuroimaging and timely anticoagulation to optimize outcomes.

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