

Severe obsessive-compulsive disorder symptom remission after brain stroke: a case report

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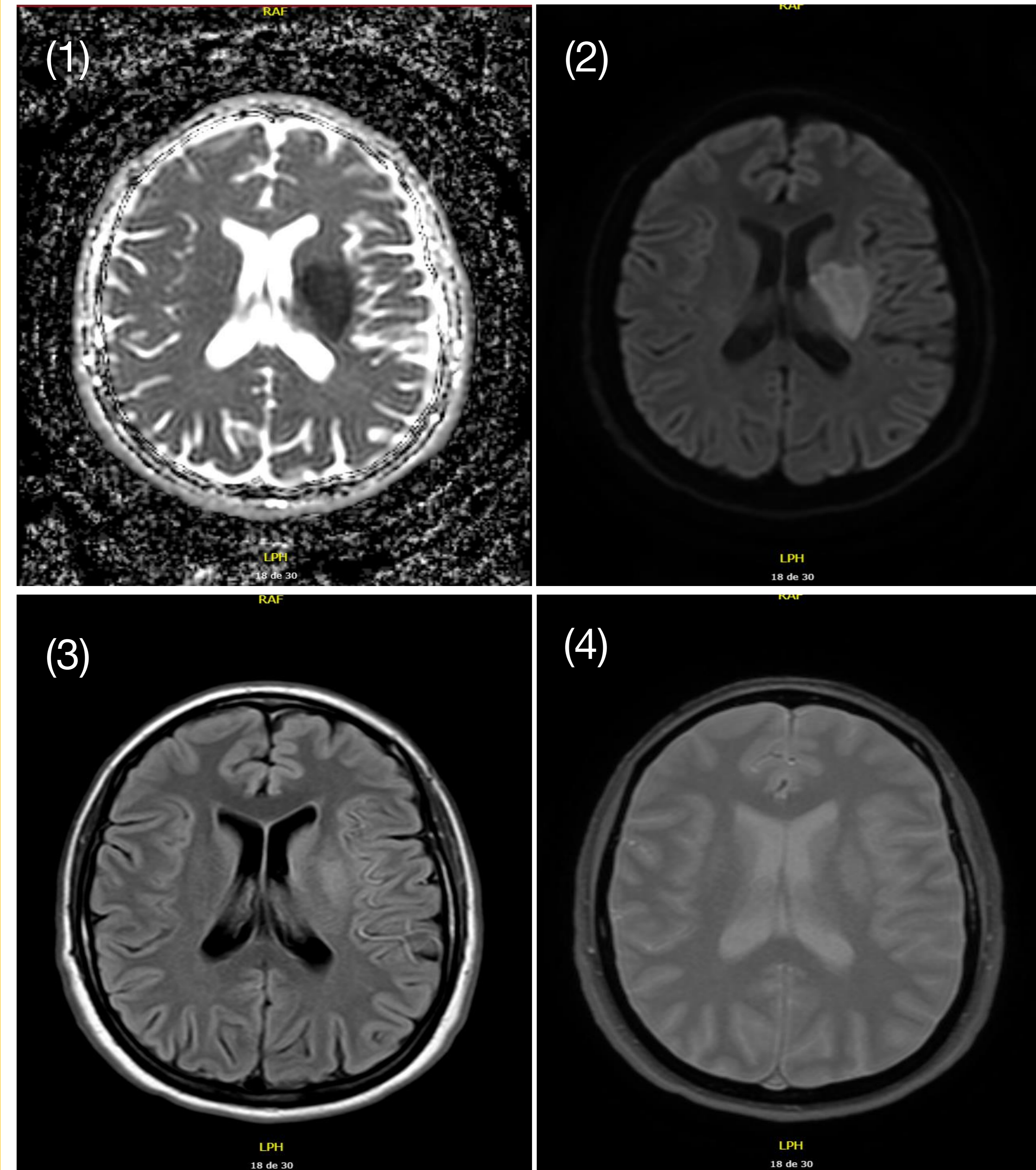
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Background

- Comprehension of OCD's neurobiological underpinnings is an ongoing task.
- Evidence for a fundamental role of basal ganglia comes from reports of structural brain abnormalities (ischemic events) leading to OC behaviors.
- Below we describe a case in which the opposite happens: an ischemic insult to the basal ganglia resulted in symptom remission.

Case presentation

- 29YO female with history of OCD diagnosed at the age of 19 with intrusive ideas of contamination associated with extreme compulsive behavior. Partial response to fluoxetine up to 80mg daily.
- For the last year, the patient had suspended treatment. She developed incapacitating symptoms (Y-BOCS=38).
- She was admitted to the hospital due to a new onset right hemiparesis (NIHSS=19); brain CT and MRI showed **left lenticular, caudate body, superior parietal and insular infarction**.
- Etiological study revealed left internal carotid artery dissection and arterio-arterial embolism with M1 segment occlusion.
- Referral to CL psychiatry was made to assess OCD treatment given the severity of previous symptoms.
- The patient was awake, oriented, and provided a coherent story. She confirmed the symptomatic burden prior to hospitalization.
- Intrusive thoughts had ceased, she no longer needed to wash her hands and wasn't afraid of touching surfaces. She denied any current psychiatric complaints. This report was consistent with the observed behavior.
- Expectant management was decided, considering SSRIs' potential increased bleeding risk.
- Patient remained asymptomatic from OCD.



Brain MRI, axial view: (1) dADC, (2) sDiffusion, (3) eFlair, (4) sT2*mFFE

Discussion

- The current understanding of OCD neurocircuitry highlights the role of abnormally hyperactive cortico-striatum-thalamic-cortical (CSTC) loops, which normalize with treatment.
- Ablation of the anterior limb of the internal capsule (anterior capsulotomy) is an effective OCD treatment.
- In this case an ischemic insult to the basal ganglia resulted in a structural disruption of CSTC loops causing symptom reduction

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- Basal ganglia seem to play a crucial role in pathophysiology of OCD.
- Case reports so far have described de novo occurrence of obsessive-compulsive symptoms after ischemic insults to the basal ganglia.
- The clinical presentation and course of the case was consistent with our current knowledge of mechanisms of action of neurosurgical treatment of OCD.
- There is still further knowledge to be obtained from such clinical presentations, specially regarding novel therapeutic approaches to OCD.

