Movement Disorders
CLINICAL PRACTICE

Lentiform "Fork Sign" and Parkinsonism After Acute Myocardial Infarction and Cardiac Failure

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A 78-year-old man presented with acute myocardial infarction, cardiac failure, and hypotension. Heparin, antiplatelet agents, and volume expansion were started. In the following days, he presented with bradykinesia, gait instability, global rigidity, and bradyphrenia. He had hypertension. Brain MRI performed 3 days later showed a hyperintense signal in basal ganglia, evolving lentiform nuclei, characterizing the lentiform "fork sign" (Fig. 1). EEG was normal. Glucose, electrolytes, creatinine, urea, ammonia, and metabolic tests were normal. Arterial gasometry did not show metabolic acidosis in the second day. Echocardiogram disclosed 46% ejection fraction (Normal: 55–70%) with global akinesia.

Although we had considered starting levodopa, the patient experienced a rapid neurological improvement that was coincidental with the clinical improvement—after 6 days (correction of hypotension and treatment of cardiac failure with inotropic drugs—digoxin). One month later, there was no parkinsonism, and brain MRI disclosed reduction of hyperintensity (Fig. 1).

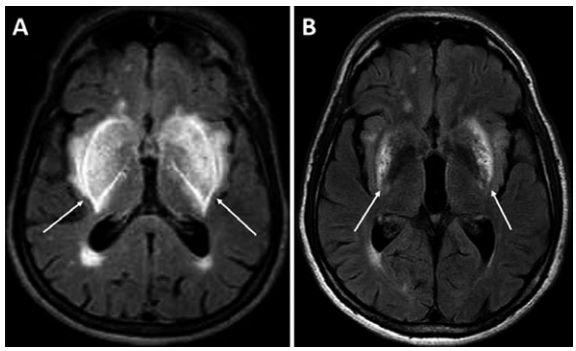

Figure 1 **A:** Axial FLAIR-weighted brain MRI shows bilateral symmetrical hyperintense signal in the basal ganglia surrounded by a more brightly hyperintense rim that delineates the lentiform nucleus. **B:** Axial FLAIR-weighted brain MRI performed 1 month after the beginning of symptoms shows a marked reduction in the hyperintense signal after treatment of myocardial infarction, cardiac failure, and hypotension.

The peculiar appearance of a reversible basal ganglia hyperintensity was called lentiform "fork sign," described in metabolic acidosis and uremia.[1] Although arterial gases can be normal, metabolic acidosis related with hemodynamic changes (hypotension and heart failure in this case but also in a myriad of clinical settings) is hypothesized as trigger in the pathogenesis of the vasogenic edema pattern evident in the imaging.[1,2]

Author Roles

1. Case Report Project: A. Conception, B. Organization, C. Execution; 2. Imaging Project: A. Conception, B. Organization, C. Execution; 3. Manuscript: A. Writing of the first draft, B. Review and Critique.

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