Atrial Fibrillation and Multi-infarct Dementia

Clinical Image

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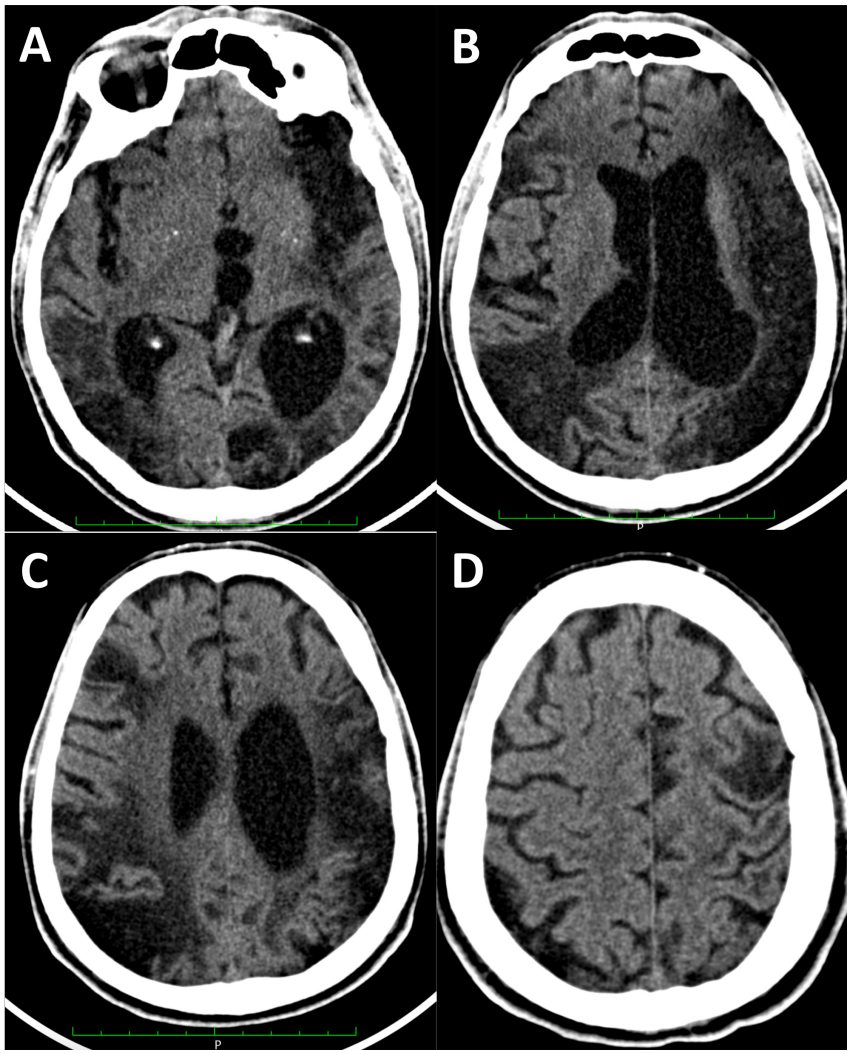

Figure 1: Panel A-D. Non-enhaced CT scan shows multiple cortical supratentorial ischemic strokes affecting the cortex bilaterally, including Broca´s area.

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A A 50-year-old-right-handed male patient presented to the outpatient stroke clinic with a history of progressive cognitive decline and an inability to perform activities of daily living.

Clinical evaluation revealed multi-domain cognitive impairment (including profound dysexecutive dysfunction), apathy, and urinary incontinence. Physical exam was remarkable for motor aphasia and right hemiparesis with brisk reflexes bilaterally. A formal cognitive examination was not possible due to profound apathy and inattention.

We performed a Computed Tomography (CT) of the head, which revealed multiple bilateral cortical infarcts, findings strongly suggesting cardioembolic stroke. Cardiological workup revealed heart failure with reduced ejection fraction (35%) and atrial fibrillation (AF). He was discharged on apixaban and metoprolol, and referred to cardiology and a rehabilitation facility.

Atrial fibrillation is associated with a 3- to 5- fold increased risk of stroke. AF and stroke act synergistically in the development of cognitive impairment. Cardioembolic stroke is characterized by the involvement of multiple arterial territories, including anterior and posterior cerebral circulation, commonly in a cortical distribution.

Multi-infarct dementia results from multiple cortical strokes and usually presents with cognitive, motor, and sensitive signs, including apathy, dysexecutive dysfunction, dysarthria, aphasia, hemiparesis, and urinary incontinence. This condition should not be overlooked in patients with AF and a history of cognitive impairment.[1]

Oral anticoagulation in patients with AF can reduce the risk of dementia-[2] The World Stroke Organization recently issued and international proclamation focused on global brain and cerebrovascular health, calling for the joint prevention of stroke and dementia, both devastating conditions as exemplified in our patient.[3]

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Conflict of interest

The authors deny presenting conflicts of interest in this work

References

[1] Jimenez-Ruiz A, Ruiz-Sandoval JL, Araiza-Garaygordobil D, Sierra-Lara D. El equipo corazón-cerebro: neurocardiologia. Arch Cardiol Mex 2020 Dec 1;91(3):391-3. DOI: 10.24875/AMC.20000213.

[2] Bezebhe WM, Bereznicki LR, Radford J, Wimmer BC, Salahudeen MS, Garrahy E, et al. Oral Anticoagulant Treatment and the Risk of Dementia in Patients With Atrial Fibrillation. A Population-Based Cohort Study. J Am Heart Assoc. 2022 April 5;11(7):e023098. DOI: 10.1161/JAHA.121.023098

[3] Hachinski V, Einhäupl K, Ganten D, Alladi S, Brayne C, Stephan BCM, et al. Preventing dementia by preventing stroke: The Berlin Manifiesto. Alzheimers Dement. 2019;15(7):961-984. DOI: 10.1016/j.jalz2019.06.001