Charles D. Collard, M.D., Editor

Cerebral Fat Embolism Syndrome

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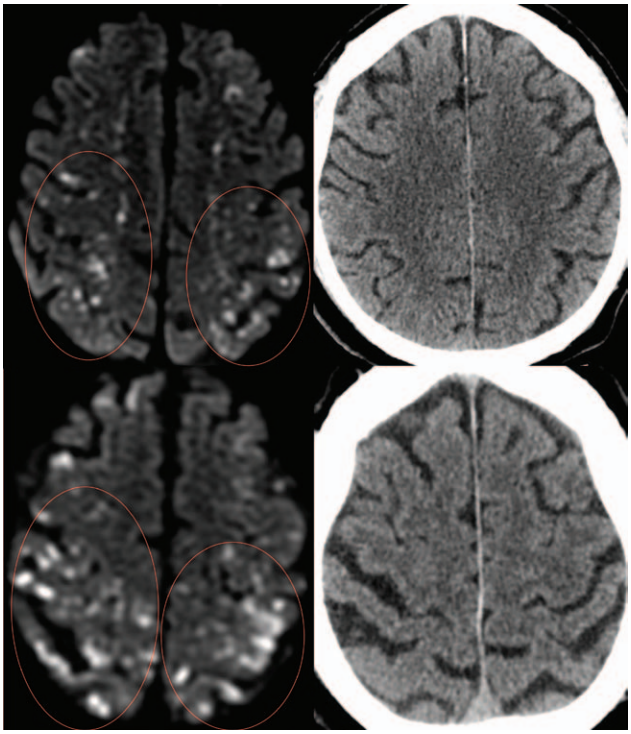

A 74-YR-OLD male developed weakness and confusion progressing to the loss of consciousness and bilateral upper and lower extremity rigidity 6 h after an unremarkable total hip arthroplasty. Cerebral computed tomography (CT) scan findings were normal. Magnetic resonance imaging (MRI) showed multiple bilateral foci of restricted diffusion in the cerebrum indicative of acute infarcts, helping make the diagnosis of cerebral fat embolism syndrome (CFES). Two supratentorial axial slices of this patient's diffusion-weighted MRI are presented on the left side of this image (fig.) with circled areas showing the classic "star field" appearance of multiple foci of restricted diffusion seen in CFES. Next to each MRI image is the corresponding normal CT image that had been obtained 1 h before the MRI.

Cerebral fat embolism syndrome is a variant of fat embolism syndrome (FES) characterized by a predominance of neurologic manifestations often without the pulmonary or dermatologic findings seen in FES. Neurologic manifestations of CFES can range from mild headache to coma. CFES with clinically significant neurologic dysfunction is rare with a recent literature review identifying 54 reported cases over a 32-yr period.[1] Diagnosis of CFES can be challenging; cerebral CT and clinical diagnostic criteria commonly used for FES are frequently negative. Often the only imaging modality that yields the diagnosis is MRI showing the classic "star field" appearance seen in this image.[2]

Treatment of CFES is primarily supportive with ventilator dependence exceeding 1 month in many cases.[3] The prognosis is not always as ominous as the initial presentation with over half of the cases presenting with coma or posturing achieving meaningful recovery.[1]

Competing Interests

The authors declare no competing interests.

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