A 53-year-old male, known diabetic and hypertensive with coronary artery disease, presented with acute onset quadripleasis, unsteadiness of gait, and dysphagia. On examination, he had slurred speech, bilateral horizontal gaze-evoked nystagmus, symmetrical quadriaplegias involving both proximal and distal equally, preserved deep tendon reflexes, bilateral plantar extensor, and truncal ataxia. Magnetic resonance imaging (MRI) of the brain (1.5 Tesla) (Figs 1 to 3) showed T2 and fluid-attenuated inversion recovery (FLAIR) heart-shaped hyperintensity on both sides of the ventral medulla, which showed diffusion restriction and was suggestive of an acute bilateral medial medullary infarct. Magnetic resonance angiography (MRA) was normal. He was treated with antiplatelets, statins, and physiotherapy. His weakness and ataxia started improving gradually over the weeks, and he is on regular follow-up.

Medial medullary infarct (MMI) is a rare cause of stroke syndrome. MMI was first described by Spiller in the 19th century. It accounts for <1% of all cases of brain infarction. MMI presents as a triad of ipsilateral hypoglossal paralysis, contralateral hemiparesis sparing the face, and contralateral loss of deep sensation. Bilateral MMI (BMMI) is still more uncommon and isolated bilateral MMI is even rarer. According to vascular supply, the medulla oblongata is divided into anterior-medial territory and anterolateral territory (anterior-medial territory and anterolateral territory) is supplied by penetrating arterioles from the anterior spinal artery and vertebral artery. The occurrence of a simultaneous bilateral MMI occurs due to the occlusion of anatomic variability branches originating from a vertebral artery that supplies both sides of the medullary.

So, it is important that this syndrome should be kept in mind in cases of hyperacute onset quadripleasis with associated long tract signs or lower cranial nerve involvement, particularly in patients with underlying comorbid conditions because MRI will reveal a crystal-clear diagnosis. Earlier confirmatory imaging findings will avoid unnecessary delays in treatment initiation and a large battery of investigations.

Fig. 1: Showing T2 hyperintensity in bilateral medial medulla with heart appearance sign

Fig. 2: Showing FLAIR hyperintensity in bilateral medial medulla with heart appearance sign

Fig. 3: Diffusion-weighted image showing restriction in bilateral medial medulla with heart appearance sign

References