Lance-Adams Syndrome after Cardiac Arrest

A 65-year-old woman presented to us with hypercapnic respiratory failure followed by cardiac arrest. Return of spontaneous circulation was achieved after ten min of cardiopulmonary resuscitation. After 24 h, she regained complete consciousness but developed severe myoclonus of extremities that were provoked by intentional activities (action myoclonus) and tactile stimulus, and alleviated by positioning limbs at rest [Videos 1 and 2]. Laboratory values were unremarkable at this point. She was weaned off mechanical ventilation on the fifth day of ICU stay but continued to require noninvasive ventilation due to her pre-existing obstructive sleep apnea.

Clinical features of this patient were consistent with the diagnosis of *Lance-Adams syndrome* (LAS), a rare posthypoxic myoclonus wherein patient regains complete consciousness similar to our patient.[1] Posthypoxic myoclonus are broadly classified into two types: LAS and myoclonic status epilepticus (MSE). Differentiation between LAS and MSE is often difficult due to overlapping clinical features.[2] Usually, the onset of myoclonus in LAS is delayed until ~4 days, while the myoclonus in MSE appears early in the post cardiac arrest period (<24 h). Our patient developed early myoclonus within 24 h after resuscitation. Such atypical presentation of LAS may further complicate the clinical decision making and prognostication.[3] Time of onset of myoclonus alone cannot reliably distinguish LAS from MSE.[4] Therefore, careful assessment of level of consciousness after minimizing sedation is vital for the diagnosis of LAS in ICU. Early distinction between these two entities is also important because patients with MSE has bad prognosis while those with LAS require early psychophysiological rehabilitation and has good outcomes. Rarely, patients with multifocal MSE reported to have a good neurologic recovery but the evidence supporting this is very limited.[4]

Pathophysiology of LAS is heterogeneous. Disruption of GABA and 5-HT pathways in vermal and paravermal regions has been postulated. Majority of these patients would not have any structural brain damage.[3] Treatment with piracetam for 3 weeks showed a reasonable improvement in myoclonus in our patient.

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Conflicts of interest
There are no conflicts of interest.

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Kiran K. Gudivada[1], Cherian Roy, Manu M. K. Varma
Department of Critical Care Medicine, St. John's Medical College, Bangalore, Karnataka, India, [1]Department of Anaesthesiology, All India Institute of Medical Sciences, Bibinagar, Hyderabad, Telangana

Address for correspondence:
Dr. Kiran K. Gudivada,
Department of Anaesthesiology, All India Institute of Medical Sciences, Bibinagar, Hyderabad, Telangana - 508 126, India.
E-mail: gkiran17medico@gmail.com

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