

# Lance-Adams Syndrome: A Rare Case of Post-hypoxic Myoclonus, Developing After a Snake Bite

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## ABSTRACT

Lance-Adams syndrome (LAS) is a rare complication of a successful cardiopulmonary resuscitation (CPR) and is often accompanied by post-hypoxic action myoclonus. Less than 200 cases have been reported in medical literature till date. A 50-year-old female presented to the Emergency Department in a state of unconsciousness. Urgent intubation and CPR resulted in stabilization of vitals over a period of few days. On regaining consciousness, the patient developed myoclonus, which was characteristically present only on activity and absent at rest or during sleep. This action myoclonus was troublesome to the patient and interfering in the day-to-day activities of the patient. Patient was started on a combination therapy with levetiracetam and clonazepam, which resulted in marked diminution of myoclonus over a period of 15-20 days. Though LAS is a rare complication, proper diagnosis and prompt management may significantly reduce the morbidity and improves the quality-of-life.

**Keywords:** Lance-Adams syndrome, cardiopulmonary resuscitation, myoclonus, levetiracetam, clonazepam

Lance-Adams syndrome (LAS) is a rare complication of a successful cardiopulmonary resuscitation (CPR). LAS is known to present as action myoclonus, days to weeks after a successful CPR, due to hypoxic injury to brain. Post-hypoxic myoclonus (PHM) is divided into two types:

- The *acute type*, which is called “myoclonic status epilepticus,” occurs within 12 hours in most cases after hypoxic brain damage in patients who are deeply comatose.
- The *chronic type*, called “the Lance-Adams syndrome,” is characterized by action myoclonus beginning days to weeks after a successful CPR and persists in patients who have recovered consciousness after CPR.

LAS is a rare complication and less than 200 cases have been reported in medical literature till date. We present

here a patient who was diagnosed as LAS after CPR due to cardiorespiratory arrest following a neurotoxic snake bite.

## CASE REPORT

A 50-year-old female reported to our Emergency Department in a state of unconsciousness. Following a snake bite, she slipped into unconsciousness, as reported by the husband accompanying her. Her oxygen saturation on admission was 40% as measured by a finger oximeter, and respiratory movements were almost absent. After 10 minutes of vigorous CPR at the Emergency Department, her vital signs started to return. She was shifted to intensive care unit (ICU), and was given 20 vials of antsnake venom in total. She regained consciousness the next day, after being on intermittent positive pressure mechanical ventilation and vasopressor support for a day. Meanwhile, a computed tomography (CT) scan of the brain was done, which showed no significant abnormalities (Fig. 1). All routine investigations like complete blood count, liver function tests, renal function tests, urine routine and microbiological examination and serum electrolytes were within normal range as given in Table 1.

When she was tapered from sedation (midazolam) and muscle relaxation (atracurium), on the 3rd day of ICU, she developed a generalized seizure and subsequently myoclonic movements were continuously observed

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