Transient Cluster Breathing Associated With Anoxic Encephalopathy

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Figure 1. Respiratory monitoring showing rapid paroxysms of breathing without a crescendo-decrescendo pattern and interspersed with periods of apnea, characteristic of cluster breathing.

A 75-year-old man sustained an out-of-hospital asystolic arrest, with return of spontaneous circulation after 5 minutes of chest compressions, norepinephrine, and sodium bicarbonate. Several hours later, he developed generalized myoclonus, resolving after the administration of midazolam, propofol, and fosphenytoin. After holding these medications on hospital day 2, the myoclonus did not return. Computed tomography revealed a chronic right parietal infarct, and a 2-hour electroencephalogram was invariant with burst suppression. Examination on days 1, 2, and 3 revealed coma with only a cough reflex present, and he was breathing over the set rate of the ventilator. On day 4, he lost his cough reflex and developed short bursts of rapid respirations consistent with cluster breathing (Figure 1), resolving the next day and subsequently requiring the ventilator to initiate respirations. Ultimately, palliative care was pursued, and the patient was terminally extubated and died on hospital day 6.

Cluster breathing is a classic but rarely reported phenomenon associated with lesions of the lower pons or upper medulla.¹

In our patient, the contemporaneous loss of cough reflex with the transient presence of cluster breathing may have reflected a rostrocaudal progression of cerebral edema after anoxic injury.

Authors' Note

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(3) the final approval of the version to be published. Informed consent was obtained from the patient/surrogate.

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