

Cluster breathing in brainstem-sparing bihemispheric cerebral and cerebellar lesions

Teaching NeuroImages

Neurology[®]

Resident & Fellow Section

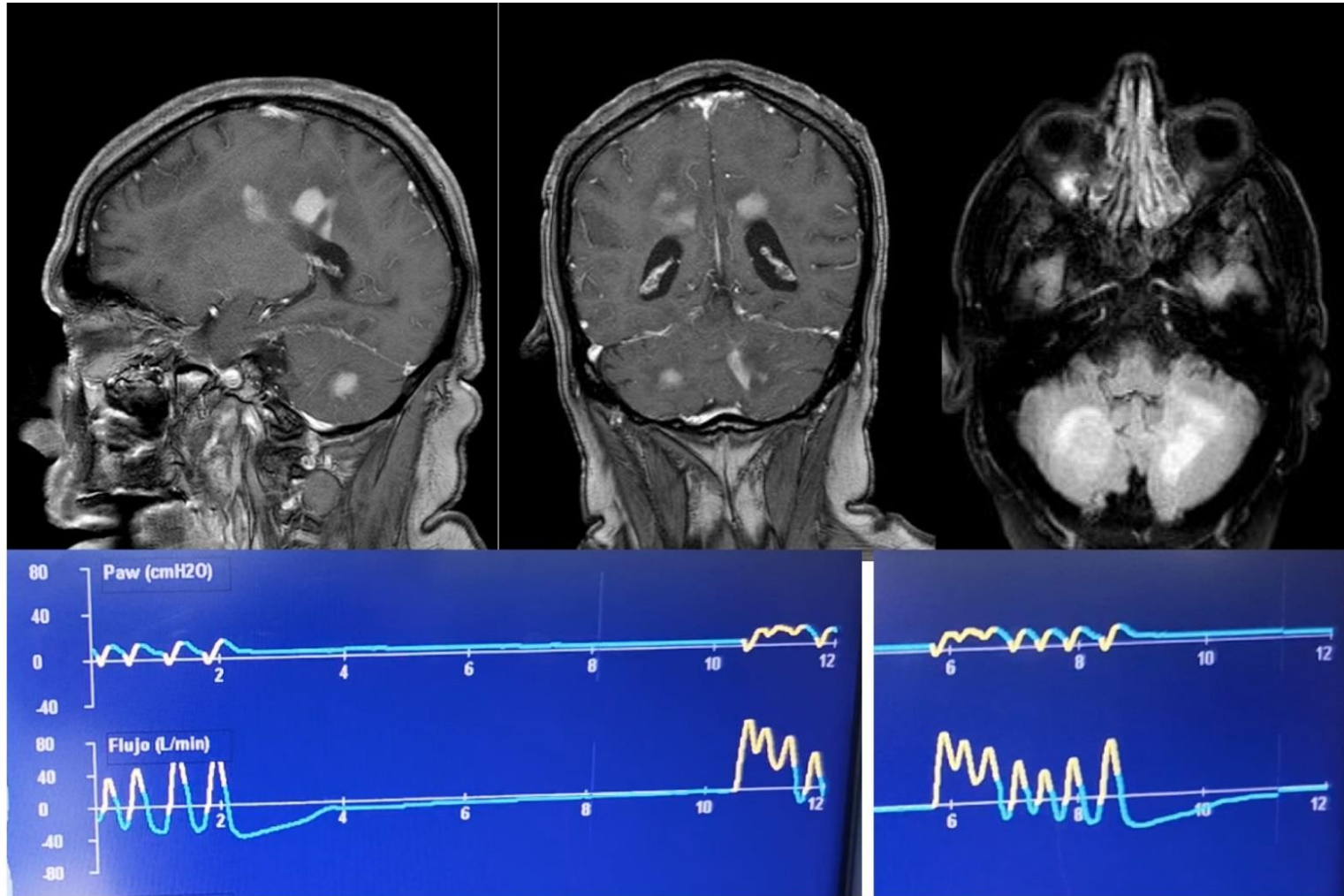
Vignette

- A 65-year-old comatose man with metastatic melanoma.
- He developed rapidly cycling breathing, with clusters of approximately 10 abdominal excursions within 3 seconds, interspersed by 10 seconds of apnea (Video and Figure).

Imaging



Imaging



Cluster breathing in brainstem-sparing bihemispheric cerebral and cerebellar lesions

- Introduced by Plum and Posner as a respiratory pattern associated with lesions in the low pons or high medulla, cluster breathing can occur without pontomedullary lesions when respiratory alkalosis accompanies bihemispheric lesions.
- It differs from the tachypnea of central neurogenic hyperventilation, also associated with respiratory alkalosis, and from the crescendo-decrescendo breathing pattern of Cheyne-Stokes.
- Combined cerebellar and cerebral lesions may suffice to affect brainstem-mediated respiratory control in the absence of brainstem lesions.