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Case Report on Hiccup and Lateral Medullary Syndrome

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Abstract

The case study is aimed at providing a more thorough analysis of a case of lateral medullary syndrome presented only with persistent hiccup after eating lunch the study hopes to generate an interest for further studies into the topic and focuses on abnormal unusual presentations of lateral medullary syndrome. Ethical committee has approved this case after taking consent from the patient and explaining to him the importance of the case in clinical practice.

Keywords

Hiccup, Lateral Medullary Syndrome, Stroke

1. Introduction

Lateral medullary syndrome (also called Wallenberg syndrome and posterior inferior cerebellar artery syndrome) is a disorder in which the patient has a constellation of neurologic symptoms due to injury to the lateral part of the medulla in the brain, resulting in tissue ischemia and necrosis.

Clinical symptoms include swallowing difficulty, or dysphagia [1], slurred speech, ataxia, facial pain, vertigo, nystagmus, Horner's syndrome, diplopia, and possibly palatal myoclonus [2].

It is the clinical manifestation resulting from occlusion of the posterior inferior cerebellar artery (PICA) or one of its branches or of the vertebral artery, in which the lateral part of the medulla oblongata infarcts, resulting in a typical pattern. The most commonly affected artery is the vertebral artery, followed by the PICA, superior

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middle and inferior medullary arteries.

2. Case Presentation

A male patient 37 years old, hypertensive presented to ER of the hospital by persistent hiccup after lunch. Patient was referred to the gastroenterologist to assess the reason for this hiccup. After full examination and evaluation including x-ray chest and abdomen, full lab. Investigations: no apparent cause was detected. Patient was put on proton pump inhibitors, metoclopramide, yet hiccup didn't stop. Neurologist was asked to see the patient. On examination horizontal nystagmus was detected, true bulbar palsy (injury of bulbar cranial nerves) with dysphagia mainly to fluids, nasal phonation of voice. MRI brain was asked showed acute lacunar infarctions of the lateral and posterior aspects of the right side of the medulla and posterior inferior aspect of the right cerebellar hemisphere (PICA TERRITORY) **Figure 1**.

Due to dysphagia nasogastric tube was inserted. Patient was put on LIORESAL 25 MG three times/day, Phenergan (Antihistaminic) twice/day to control hiccup. In addition to lopidogrel 75 mg/day, angiotensin converting enzyme inhibitors (ACEI) for blood pressure control. Patient was discharged with nasogastric tube and follow up at neurology clinic.

3. Discussion

Wallenberg's syndrome (WS) is well defined clinically, and the lateral medullary infarction (LMI) is the most frequent cause, among others **Figure 2**. The WS and LMI are easily diagnosed on the basis of the specific neurological findings, but pathological verification may usually be lacking because the LMI is rarely fatal. Although the combinations of the various signs and symptoms are helpful for the clinical diagnosis of WS, the presence of the different signs and symptoms may vary from patient to patient [2] [3].

Among these symptoms and signs, dysphagia has been reported in 51% to 94% of the patients with WS [2] [3]. It has been widely accepted that in most cases the dysphagia in WS is initially severe enough to require no oral feeding but often improves rapidly, and the patient can return to oral feeding within 1 to 2 months after the stroke [4] [5].

However, in some patients, dysphagia does not recover for many months, even years [6] [7]. Thus, the problem of dysphagia in patients with WS is important from 2 perspectives. On one hand, some patients do not clinically demonstrate dysphagia and aspiration from the onset of stroke, although the major swallowing centers of the nucleus tractus solitaries (NTS) and nucleus ambiguous (NA) and the reticular formation around them are located in the dorsolateral medulla oblongata [8] [9] (**Figure 3** and **Figure 4**).

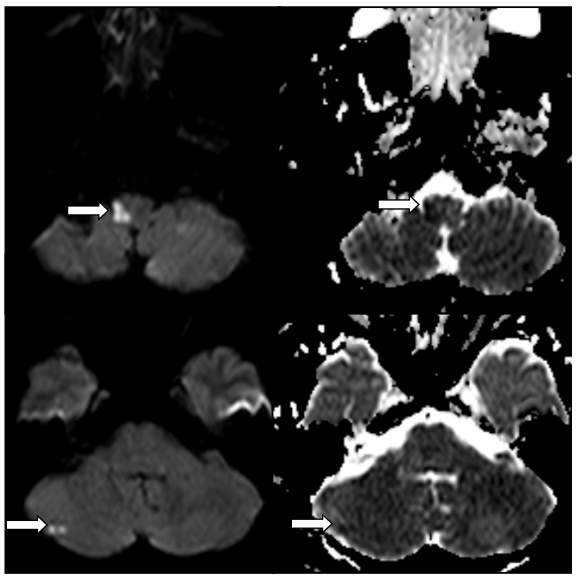

Figure 1. MRI brain DWIs and corresponding ADC images show foci of diffusion restriction at the right side of the medulla oblongata and inferior aspect of the right cerebellar hemisphere right PICA territory (lateral medullary syndrome).

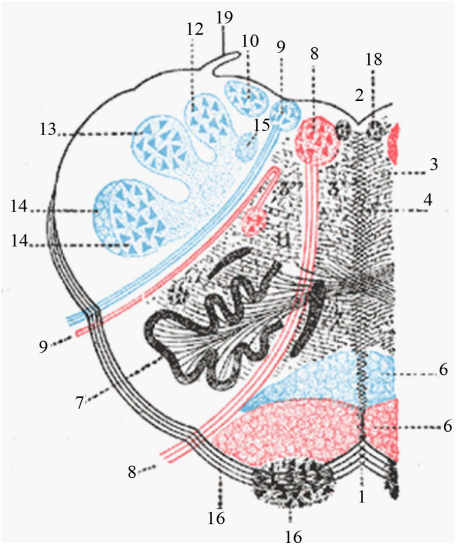

Figure 2. Medulla oblongata, shown by a transverse section passing through the middle of the olive (lateral medullary syndrome can affect structures in upper left: #9, #10, #11, #12, #13, and #).

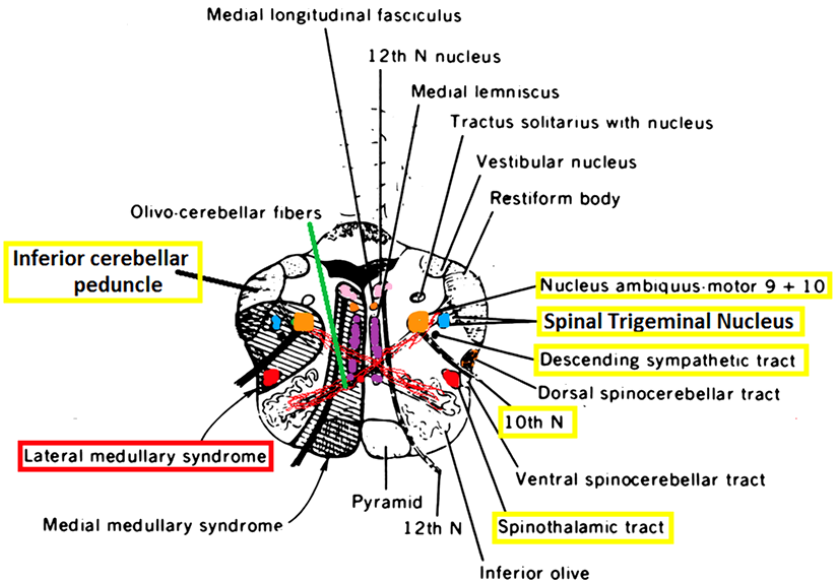

Figure 3. Cross section of the medulla showing lateral medullary syndrome.

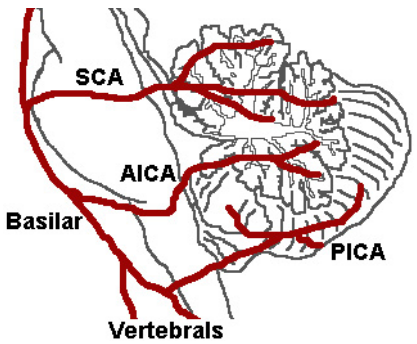

Figure 4. The three major arteries of the cerebellum: the SCA, AICA, and PICA (posterior inferior cerebellar artery is PICA).

4. Conclusion

The clinical significance of this case is that dysphagia and hiccup could be initial presentation of lateral medullary syndrome especially if it is associated with upper motor neuron symptoms and signs too.

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