Case Report
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Let's Re-Remember What Wallenberg Syndrome (Lateral Medullar Syndrome) Is?

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Abstract

Lateral Medullar Syndrome (LMS) is a rare stroke and often results from vertebral artery or posterior cerebellar artery thrombosis and emboli. Common signs and symptoms are hemisensory disorder and cerebellar syndrome (ipsilateral head, contralateral body), ipsilateral horn syndrome, and ipsilateral signs.

Keywords: Wallenberg; Lateral medullary syndrome; Magnetic resonance imaging

Introduction

LMS is one of the most well identified vascular syndromes in vertebrobasillary territories and involves about 2 percent of admissions of acute stroke [1]. The diagnosis of this syndrome usually depends on medical symptoms and signs [2].

Syndrome is characterized by sensory deficits on the opposite side of the infarction, on the trunk and extremities, sensory deficits on the same side of the infarct on the face and the cranial nerves. In general, the contralateral side of the body and the ipsilateral side of the head suffer from loss of pain and temperatures. The diagnosis of the syndrome is based on cross-signs. Silent speech disorders, ataxia, facial pain, hypertension, nystagmus, Horner's syndrome, diplopia and, if possible, palatal myoclonus are other medical signs and symptoms [3]. Magnetic Resonance Imaging (MRI) has been the preferred method in brain infarct studies, because the spatial resolution and good comparison between normal and pathological tissues are high [4].

The Diffusion Weighted Imaging (DWI) software provides additional information. It is sensitive to hyperacute infarctions and can differentiate acute and sub-acute infarction from chronic infarction especially in the supratentorial stroke [5].

Case Report

64-year-old woman admitted to emergency department with complaints of balance disorder, dizziness, numbness on the right side of the face and weakness of the left arm and limb, which had been diagnosed for three days. The brain MRI of the patient and the diffusion of the MR images are interpreted. She was then admitted to the department of neurology.

MRI and DWI findings

T2IMagnetic resonance pictures of the brain had been perceived as high-signals on the right side of the medulla oblongata in the brain stem (Figure 1).

FLAIR imaging shows a clear hyper intensity in the right lateral medullar area, matching the clinical presentation (Figure 2). Acute infarct in right posterolateralmedulla on DWI image (Figure 3). On MRI of the brain identified an area of restricted diffusion in the right lateral medulla (Figure 4).

Discussion

LMS is a rare stroke cause. LMS is caused by a stroke in one of the two arteries of the brain stem. In lateral medullary syndrome, the infarct area extends from medial to lateral along the dorsolateral medulla. Brain MR imaging can confirm the diagnosis [1].

The syndrome is characterized by sensory deficits on the opposite side of the infarction, on the trunk and the extremities, and sensory deficits on the same side with that infarction, on the face and cranium. Loss of pain and temperature feeling occurs especially on the contralateral side of the body and the ipsilateral side of the face. The diagnosis of the syndrome is based on cross-signs. Other

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Figure 1: T2I Magnetic resonance pictures of the brain had been perceived as high-signals on the right side of the medulla oblongata in the brain stem.

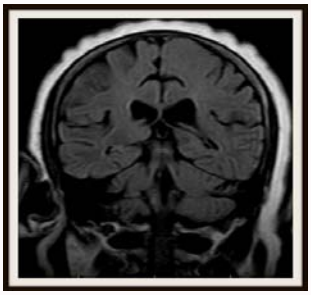

Figure 2: FLAIR imaging shows a clear hyperintensity in the right lateral medullar area, matching the clinical presentation.

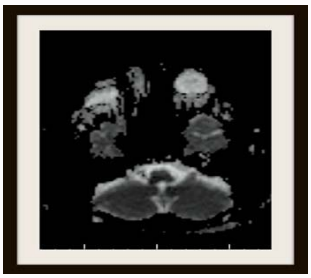

Figure 3: Acute infarct in right posterolateral medulla on ADC image.

clinical signs are dysphagia, slurry speech, ataxia, facial pain, vertigo, nystagmus, Horner syndrome, diplopia and possibly pale myoclonal disease [3]. Vertebral artery dissection and large artery atherosclerosis are significant factors of risk of LMS, which are found mainly in cases of stroke. Vertebral artery dissection is most commonly seen in younger or recent trauma whereas older patients with a history of hypertension, diabetes, smoking or coronary artery disease are more likely to develop atherosclerosis [6]. Another possible etiology should be considered, particularly in arrhythmic patients, cardiac dysfunction, or valvular disease, is embolic stroke from the heart [7].

MRI is a sensitive diagnostic technique for evaluating the brain and spinal cord. MRI has been the preferred method in brain infarct studies, because the spatial resolution and good comparison between normal and pathological tissues are high [4]. Magnetic resonance imaging enables the visualization of infarctions at an early stage and allows early intervention in patients with LMS. Our patient had clinical findings that refer to the condition of Wallenberg. In our cases Magnetic resonance imaging demonstrated a medullary infarction (Figure 1-4). DWI had a high sensitivity in the diagnosis of LMS.

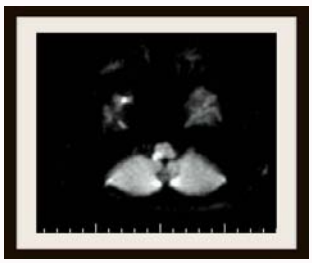

Figure 4: MRI of the brain identified an area of restricted diffusion in the right lateral medulla.

DWI has been founded for posterior fossa and brainstem infarction as a highly sensitive technique available. DWI image posterolateral medulla restricted diffusion due to acute infarct. In medullary infarct tissue, the abnormal high signal intensity is found within T2-weighted images. In contrast, T1W images are isointense. LMS, because of its location, size and clinical symptoms, is a brain stem infarction [8,9].

Conclusion

A rare stroke is the lateral medullar syndrome. The disease can be clinically diagnosed. LMS is usually caused by VA or PICA thrombosis or embolism. Here, as the patient had a myocardial infarction attack, the emboli come from the heart. To establish a strong medical hypothesis of early acute post-circulation stroke, particularly LMS, it is recommended that MRI be performed. Visualizing these MRI infarctions can alert the clinician to the potential for severe complications associated with large cerebellar lesion.

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