

# WALLENBERG'S SYNDROME IN YOUNG ADULTS: CASE REPORT

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## ABSTRACT

Wallenberg's syndrome which is also known as Lateral medullary syndrome and posterior inferior cerebellar artery syndrome is a very rare cause of cerebrovascular accident (CVA). This has variability of presentation which cause the under diagnose for Wallenberg Syndrome. Generally ischemic CVA and especially medullary infarction occurs in the old patients but here we report two cases of Wallenberg syndrome in young adults, first is 35 years male and second is 38 years female.

## KEY WORDS

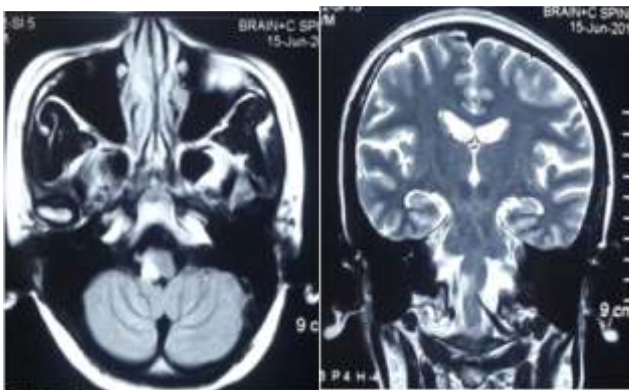
*Ataxia, cerebrovascular infarction, lateral medullary syndrome, medulla oblongata, wallenberg syndrome*

## INTRODUCTION

The Wallenberg Syndrome or lateral medullary syndrome is caused mainly by infarction of lateral medulla in which most association found was with vertebral artery (VA), followed by *posterior inferior cerebellar artery (PICA)*, superior, middle and inferior medullary arteries. The typical signs and symptoms of LMS are hemisensory disturbance over ipsilateral face and contralateral body is crossed and presence of ipsilateral cerebellar signs and ipsilateral Horner syndrome. The Wallenberg syndrome was first described and published in 1961.<sup>1</sup> Similar study done by Kim in 2003 showed the onset was sudden on most cases.<sup>2</sup> Among non-sudden onset, first signs and symptoms are usually vertigo, headache, gait ataxia or dizziness. Sensory signs like hiccups, hoarseness and dysphagia occur later. Patients signs and symptoms are categorized into very common (90%), moderately common (50% to 70%) and less common (<40%). The most common signs and symptoms are sensory symptoms/ signs, dizziness, gait ataxia and Horner sign.<sup>2</sup> The most frequent manifestations are Sensory signs and symptoms.

## CASE REPORT : 1

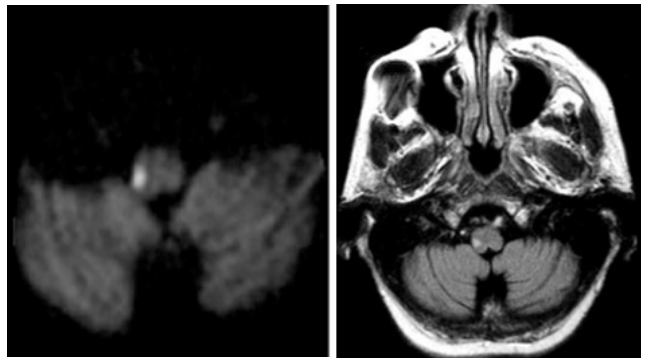
35 years gentleman presented to emergency department with severe headache which was acute onset associated with severe dizziness and vomiting four hours prior. The patient's blood pressure, pulse rate, body temperature and respiratory rate and SpO<sub>2</sub> were 130/80 mm/Hg, 80 beats/min, 36°C, 18/min, 98% respectively and there was no previous history of hypertension. In his physical examination; he has Horner's syndrome with hemiparesis (4/5 level of muscle strength), increased DTR, Babinski reflex positive and ataxia were present. His blood counts (CBC), liver function test (LFT), renal function test (RFT) were within normal range and viral serology was negative. The patient was managed symptomatically and CT head was obtained which came out normal. After patient got bit comfortable MRI brain was done and right lateral medullary infarction was seen (Figure 1). Patient was admitted in the ward with the diagnosis of Wallenberg's Syndrome being managed conservatively with symptomatic medications and physiotherapy.



**Figure 1:** MRI FLAIR axial and T2 Coronal showing lateral medullary infarction.

## CASE REPORT : 2

36-year-woman admitted to emergency department with sudden onset of headache and vertigo for last 4 hours. The patient's blood pressure, respiratory rate, heart rate, temperature and SpO<sub>2</sub> were within normal range. She has no significant past medical or surgical history. In her physical examination; Horner's syndrome, Babinski reflex positive, dysmetria, dysdiadochokinesia on the right side, horizontal nystagmus and ataxia were observed. She was admitted and acute vertigo was managed conservatively. Same day CT head was done and which was normal. She was then hospitalized and symptomatic management was done and physiotherapy was started. Magnetic resonance imaging of brain was achieved once she got better, which revealed hyper intensity in DWI and FLAIR images at right lateral side of the medulla in brain stem, suggestive of lateral medullary infarction (Figure 2).



**Figure 2:** MRI DWI and FLAIR showing lateral medullary infarction.

## DISCUSSION

The moderate signs and symptoms of the Wallenberg Syndrome are headache, nausea, vomiting, vertigo, dysphagia, nystagmus and limb ataxia. There are sensory signs affecting face and cranial nerves on the same site of lesion and body and extremities opposite site of lesion. It is important to diagnose Wallenberg Syndrome or LMS because about 15% to 26% of the cases may associated with vertebral artery dissection.<sup>3</sup> This syndrome is characterized by loss of pain sensation and temperature sensation over same side of face and opposite side of body.<sup>4</sup> The dysphagia, dysarthria are caused by involvement of nucleus ambiguus. If spinal trigeminal nucleus is affected, it leads to have ipsilateral loss of corneal reflex and pain on the face. Ataxia in WS is caused by damage to the cerebellum or the inferior cerebellar peduncle. Horner's syndrome is caused by damage to the hypothalamo-spinal fibers disrupting sympathetic nervous system. The involvement of vestibular nuclei may leads to vertigo and nystagmus. Damage of the cranial trigeminal tract causes palatal myoclonus.<sup>4</sup> Lateral medullary syndrome or WS is a rare cause of stroke among youngs.<sup>4</sup> Generally, lesions in WS are related to involvement of multiple vessel, dissection, and poor collateral circulation is larger than that of single-vessel disease, atherothrombosis /cardiac embolism, and good collateralization.<sup>5</sup> one study

done among 142 patients, the median age at symptom onset was 63 years and male patients were 142 ( $n=107$ , 75.4%).<sup>6</sup> As seen in our cases this syndrome can occur in even in young patients aged less than 40 with variation of signs and symptoms. The disease can be diagnosed clinically with sign and symptoms discussed above. Radiological investigations like CT/MRI can be used to confirm diagnose and MRI is superior to CT at the early stage of disease. There is symptomatic treatment and no specific treatment available.

## CONCLUSION

Wallenberg Syndrome can occur among young adults and may present initially with common symptoms like headache and vertigo. Conservative therapy with symptomatic treatment with medicines and physiotherapy may result early recovery.

## CONFLICT OF INTEREST

None

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