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Case Report

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An uncommon case of stroke – Wallenberg syndrome

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ABSTRACT

Wallenberg syndrome is also known as lateral medullary syndrome though a unusual cause of stroke, more common posterior circulation stroke. We report a 75 year old female diabetic and hypertensive who presented with giddiness and dysphagia. On examination she had numbness over the left half of face, loss of temperature sensation over the right side of the body with absent gag reflex with deviation of uvula to right. Initial work up of computed tomography of brain was normal, on detailed evaluation by MRI brain with MR angiogram showed an infarct in the left side of the medulla suggestive of Wallenberg's syndrome. This case is to highlight the importance of detailed neurological examination and detailed evaluation by MRI, when posterior circulatory stroke is suspected.

Keywords: Wallenberg Syndrome, PICA, Lateral Medullary Syndrome

INTRODUCTION

Ischemic strokes occurring in the anterior circulation are the most common of all ischemic strokes, accounting approximately 70-80% of all cases [1]. They are caused by occlusion of one of the major intracranial arteries or of the small single perforator arteries. Posterior circulation strokes represent approximately 20-30% of all ischemic strokes [2]. Posterior circulation stroke is classically defined by infarction occurring within the vascular territory supplied by the vertebrobasilar arterial system.

Most common posterior circulation strokes includes Wallenberg syndrome but as a whole considering ischemic stroke, Wallenberg is an uncommon case of stroke. Wallenberg syndrome is also known as lateral medullary syndrome or posterior inferior cerebellar artery (PICA) syndrome. The syndrome was first described by Dr. Gaspard Vieusseux in 1808. First description was given by Dr. Adolf Wallenberg in 1895 (clinically) and in 1901 (autopsy findings) [3]. It was listed as a rare disease by the office of rare disease of the National institute of health. It affects approximately

1 in 200000 population and is commonly caused by thrombosis or embolism of the vertebral artery or PICA. Most commonly involved arteries in order are vertebral 75%, PICA 12%, and superior, middle and inferior medullary arteries [3]. It is the most common posterior circulation infarction. Dysphagia is a troublesome symptom and has been reported in 51-94% of patients [4].

Features of lateral medullary syndrome include ipsilateral loss of pain and temperature sensation over the face, unilateral Horner's syndrome (ptosis, miosis, and anhidrosis), paralysis of palate, larynx and pharynx associated with nystagmus. Contralateral loss of pain and temperature sensation occurs over the trunk and limbs with uvula deviation and nystagmus (rapid horizontal phase) [5].

Patients who have developed posterior cerebral artery (PCA) strokes present with an interesting and diverse spectrum of neurologic symptoms. The most common long-term sequelae of PCA strokes are visual and sensory deficits. In general, patients with PCA distribution strokes exhibit less overall chronic disability than do those with anterior cerebral, middle cerebral or basilar artery infarctions [6].

CASE REPORT

A 75 year old female, known diabetic and hypertensive came with complaints of giddiness associated with difficulty in swallowing for both solids and liquids with nasal regurgitation and giddiness for 5 days. The patient also complained of difficulty in walking for 4 days. There is no history of weakness of limbs, voice change, loss of taste, dribbling of saliva, speech disturbances, disturbance in vision, memory impairment. There is no history of vomiting, nausea, chest pain, palpitations, sweating, breathlessness, cough with expectoration and trauma. Her vitals were normal. On examination she was conscious and urinary bladder was catheterized for her difficulty in walking.

On neurological examination, it was found she was a right handed patient and she had dysarthria – Scanning type of speech. Loss of touch and temperature sensation over the left half of the face was noted. Gag reflex was absent. Palatal reflex showed deviation of uvula to right side. Spino Motor system examination - tone and power of the

limbs were normal, Deep tendon reflexes were normal. Plantar reflexes were normal, Deep tendon reflexes were normal. Plantar reflexes were normal. Pain and temperature sensations were absent over right side of body. Her gait was ataxic and she had finger nose incoordination and heel knee incoordination on the left side. There were no signs of meningeal irritation. Other systems examination were normal

Investigations revealed no abnormality in CBC. FBS and PPBS were 199 and 365 mg/dl respectively. ECG, Chest X-ray, Doppler studies were normal. CT Brain showed age related changes. MRI Brain showed an non hemorrhagic infarct on the left side of the medulla – involving posterior inferior cerebellar artery.. She was treated with antiplatelets, statins and physiotherapy. Ryle's tube feeding was provided; adequate care was given to prevent aspiration. Her diabetes and hypertension was managed adequately with insulin and antihypertensive medications. Patient condition improved, subsequently oral feeds were initiated, she was mobilised and discharged home.

DISCUSSION

In posterior circulation strokes, Wallenberg syndrome is common but considering ischemic strokes, it is a rare form of stroke. The risk factors include increasing age, family history, prior history of stroke, hypertension, diabetes mellitus, cigarette smoking, heart disease, obesity and drug or alcohol use. Here our patient had diabetes, hypertension, increasing age as risk factors. Our patient had numbness over left half of face (descending tract of trigeminal nerve involvement) and loss of temperature sensation over right half of the body (sensory tract involvement) associated with difficulty in swallowing for both solids and liquids and nasal regurgitation (9th and 10th nerve involvement) and giddiness (Vestibular nucleus involvement). The patient also complained of difficulty in walking suggestive of cerebellar involvement. Head imaging (CT/ MRI) can confirm the diagnosis. Although our clinical understanding remains our most important diagnostic tool, acute stroke therapy without neuroimaging is impossible. In most patients, only non-contrast computed tomography is used for diagnosis of acute stroke. From a pathophysiologic point of view, advanced computed tomography techniques and magnetic

resonance imaging provide much more information about the stroke patient as the basis of decision making in acute stroke management. Treatment includes antiplatelet agents, adequate treatment of risk factors and rehabilitative measures include preventing complications, minimize impairments and maximize independence and function. The complications include paresthesia, bulbar palsy, cerebellar syndrome, nystagmus, 9th and 10th cranial nerve disorder. Prognosis is naturally unpredictable. It depends upon duration, chances of complications, site and size and location of the area of the brain stem damaged by the stroke [7]. With appropriate treatment, clinical monitoring and post stroke care, the prognosis for recovery remains good. Identifying at risk population can prevent the disease.

Lateral medullary syndrome is characterized by vertigo, diplopia, dysarthria, Horner's syndrome, numbness (ipsilateral face and contralateral limb) and traditionally it is not associated with any limb

weakness. Localization in this syndrome is easy because of characteristic presentation, exclusive blood supply and very small area of involvement. However in Opalski syndrome⁸ and Babinski-Nageotte syndrome [9], lateral medullary syndrome is associated with hemiplegia. In Opalski syndrome, hemiplegia is ipsilateral due to the extension of the infarct caudally to involve the corticospinal fibers after the pyramidal decussation [8]. In Babinski-Nageotte syndrome [9], there is contralateral hemiparesis because pyramidal tract is affected before decussation.

CONCLUSION

This case is to highlight the importance of detailed neurological examination to identify and localise the posterior circulation stroke and evaluate by MRI brain to initiate the early treatment to prevent complications.

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