



## Isolated Monoparesis -A Case Report

Authors

**Dr Deepsheeka.G<sup>1</sup>, Dr Badrinath.A.K<sup>2</sup>**

<sup>1</sup>Post Graduate, Department of General Medicine, Sri Manakula Vinayagar Medical College and Hospital

<sup>2</sup>Professor and Unit chief, General Medicine, SMVMCH

### Abstract

*Isolated monoparesis is a rare symptom in stroke patients. Monoparesis of upper limb is reported in less than 1% of cases. Here we present a case of isolated monoparesis with both diabetes and hypertension, identified at the earliest by DWI and started on antiplatelets, antihypertensive and good glycemic control and weakness improved to the maximum in a duration of one week .*

**Keywords:** *isolated monoparesis, ischemic stroke, hypertension, diabetes.*

### Introduction

Isolated monoparesis is a rare symptom in stroke patients and is often caused by small artery disease or a small haemorrhage.<sup>1</sup> Hand weakness due to cortical cerebral infarction is a rare clinical picture and has been reported in less than 1% cases of all ischemic strokes. Usually caused by ischemic cortical infarcts in the MCA territory involving motor hand cortex, sometimes ventro posterior thalamus and posterior limb of internal capsule.<sup>2</sup>

### Case Report

A 48 year old female who is a known case of type 2 diabetes mellitus and systemic hypertension on regular medication for 4 years came with complaints of weakness of right upper limb for 4 days, sudden in onset, non progressive associated with loss of consciousness while working in the morning. Patient had similar complaints 2 days before the present episode and weakness improved

spontaneously. H/o difficulty in holding objects, mixing food and difficulty in combing hair and lifting hand above the head was present. No h/o lower limb weakness. No h/o any sensory loss. No h/o any cranial nerve defects. BP-140/90 mmHg on admission. On examination of motor system bulk was same on both sides, no hypertonia, power was 4/5 in right upper limb with 50% handgrip and left upper limb power was 5/5. Reflexes in right and left upper limb and lower limb was normal. Sensory system, cranial nerve examination, coordination were all normal. Her ECG showed normal sinus rhythm. 2D echo done showed normal LV systolic function, impaired diastolic function with EF-60%. MRI brain with MRA and MRV showed multifocal areas of acute infarcts in left fronto-parieto occipital lobes with age related generalised cerebral atrophy [Figure 1.1 and Figure 1.2] Patient was treated with , antiplatelets and statins. Patient improved symptomatically and power in the left upper

improved to 5/5 during the course of stay in the hospital within one week and patient is on regular follow up.

### Discussion

Pure motor monoparesis (PMM) resulting from limited isolated motor deficits in single extremity without any sense defect due to cerebral processes is a rare condition seen as a result of demyelinating disease, abscess, brain tumor, hemorrhage and ischemic infarctions.<sup>3</sup> Most common cause of acute onset isolated arm weakness on one side is stroke.<sup>4</sup> Stroke presenting with isolated arm weakness may be misdiagnosed as a peripheral nerve disorder because of absence of pyramidal tract signs or involvement of speech, face or lower limbs. Acute onset is the key to diagnosis of stroke. Brachial plexus lesions may also have acute onset but weakness is proximal more than distal and diagnosed by nerve conduction study and EMG and MRI. Psychogenic monoplegia is common in younger people.<sup>5</sup> The investigation of choice is an MRI of brain has studies have shown that patients with no structural abnormality in CT brain actually had a pathology by MRI. The vascular territory in patients with pure monoparesis was identified as superficial MCA in 48% patients, subcortical in 31%, brainstem in 8%, and ACA in 8%.<sup>6</sup> It has been reported that the clear majority of monoparesis are due to ischemic lesions, but almost all are accompanied by vascular risk factors.<sup>4</sup> The frequent risk factor was hypertension. The outcome is generally favourable. Based on the fact that hand weakness is a measurable neurological deficit and can be very disabling, if symptoms are not spontaneously improving and patient has no contraindications, our recommendation is to proceed with IV rTPA administration; followed by a complete stroke workup and treatment of thromboembolic source and risk factors.<sup>5</sup> Presence of risk factors in patients with pure motor monoparesia should remind us of the possibility of stroke in the etiology. In our patient risk factors of both diabetes mellitus and hypertension were present. Patient was diagnosed and treatment started

at the earliest. Full clinical recovery was seen by the end of one week.



Figure 1.1

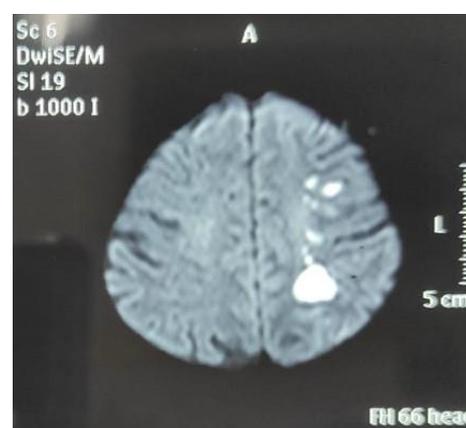


Figure 1.2

### References

1. Van Melle Julien Bogousslavsky MM-IG. Pure Monoparesis A Particular Stroke Subgroup?; Arch Neurol. Aug 2005; 62:1221-1224.
2. M Paciaroni, V Caso, P Milia, M Venti, G Silvestrelli, F Palmerini, K Nardi, S Micheli, G Agnelli. Isolated monoparesis following stroke. J Neurol Neurosurg Psychiatry 2005; 76:805–807. doi: 10.1136/jnnp.2004.047779.
3. Eliacik S. Ischemic Stroke and Monoparesis. 2018 Jul 9; 6-Issue 4: 2018. Available from: <http://dx.doi.org/10.26717/BJSTR.2018.06.001371>
4. Kumar, Sudhir & Kaul, subhash. (2017). Approach to a patient with monoplegia and hemiplegia.

5. Hand Monoparesis Due to Small Cortical Ischemic Stroke, Etiology, Prognosis and Medical Management: Case Report and Literature Review. 2013;4(6):429–32.
6. Maeder-Ingvar M, van Melle G, Bogousslavsky J. Pure Monoparesis: A Particular Stroke Subgroup? *Arch Neurol*. 2005;62(8):1221–1224.  
doi:10.1001/archneur.62.8.1221