

Striatal toe

Sudhir Kumar, Chenna Rajesh Reddy, Subhashini Prabhakar

Department of Neurology, Institute of Neurosciences, Apollo Hospitals, Hyderabad, India

Abstract

We report a case of striatal toe in an adolescent with an infarct in lentiform nucleus and briefly discuss its differential diagnoses.

Key Words

Adolescent, infarct, striatal toe

For correspondence:

Dr. Sudhir Kumar, Institute of Neurosciences, Apollo Hospitals, Jubilee Hills, Hyderabad - 500 033, India.

E-mail: drsudhirkumar@yahoo.com

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Introduction

A “striatal toe” has been defined as an apparent spontaneous extensor plantar response, without fanning of the toes, in the absence of any other signs suggesting dysfunction of the cortico-spinal tract.^[1] Originally described by Charcot and Purves-Stewart, the term striatal refers to the pathology located in the neostriatum (caudate and putamen).^[2] It is commonly seen in dystonic syndromes, and as a feature of extrapyramidal disorders such as dopa-responsive dystonia.^[3] Striatal toe is seen in about 10% of patients with advanced Parkinson's disease. Striatal toe can uncommonly be seen in patients with hemiparesis due to stroke too.

Recently, a 14-year-old adolescent presented with abnormal upward posturing of the left big toe of 6 months duration. This abnormal posture was present at rest, while walking and also during sleep. There was no associated pain. On examination, a left-sided striatal toe was noted [Figure 1]. This persisted during walking. There was a mild rigidity in the left foot, but he had no tremors or bradykinesia. Rest of the neurological examination was within the normal limits. Magnetic resonance imaging of the brain showed hypo-intensity of the right putamen suggestive of old infarct with gliosis, and hyper-intensity of the left putamen suggestive of recent infarct on Fluid Attenuated Inversion Recovery FLAIR images [Figure 2].



Figure 1: Left sided striatal toe

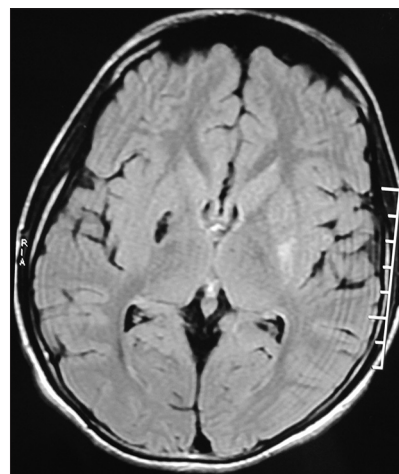


Figure 2: Magnetic resonance imaging brain FLAIR images showing the old right putaminal infarct and fresh left putaminal infarct

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Striatal toe is a classical clinical finding, which localizes the lesion to the caudate nucleus and putamen. This finding is commonly noted in extrapyramidal disorders, where dystonias are the more common clinical findings. However, unlike dystonia, striatal toe is present even at rest and in sleep.

Striatal toe can also be confused with Babinski's sign. In Babinski's sign, the extensor plantar response is elicited by applying a stimulus on the foot; whereas the extension of big toe occurs in striatal toe in the absence of any stimulus.

Striatal toe can be functional or organic. These two can be differentiated on the basis of routine bedside clinical examination.^[4] In cases of functional or psychogenic "striatal toe", passive plantar flexion of the big toe elicits pain and variable resistance. Forced dorsiflexion of the second-fifth toes yields spontaneous plantar flexion of the first toe. Conversely, in case of organic striatal toe, there is no pain or resistance to passive plantar flexion of the big toe and forced

dorsiflexion of the other toes does not alter the spontaneous toe extension.

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