

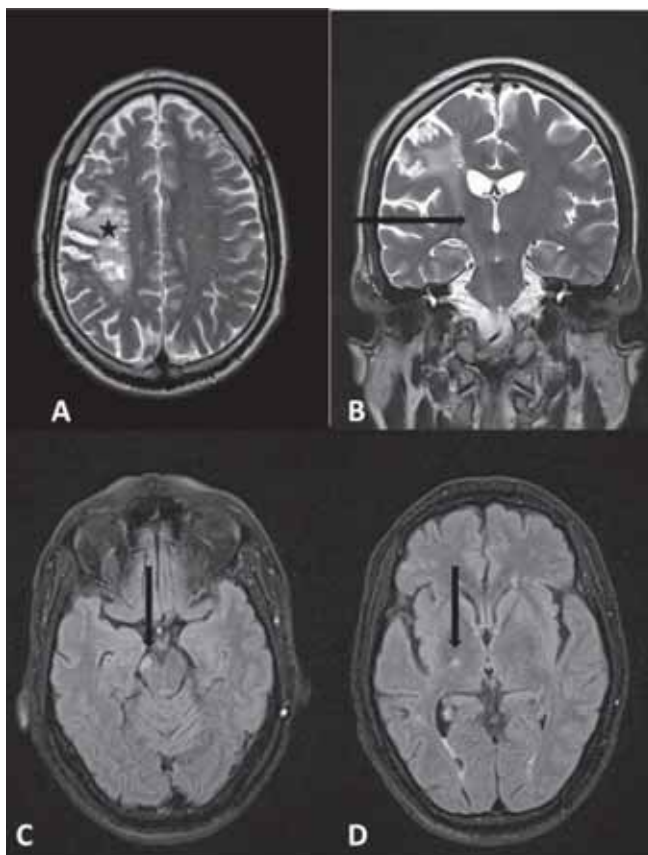
## Wallerian degeneration of corticospinal tract following stroke – Indicator of worse prognosis

Manchikanti Venkatesh, G.H. Jhansi Priya, Amit Agrawal

Department of Radiology, Narayana Medical College Hospital, Nellore-524003,  
Andhra Pradesh, India

A 55 year old female was brought to hospital with history of stroke 2 months earlier due to hypertension. On examination she had decreased power in left upper and lower limbs. MRI revealed chronic infarct in right fronto-parietal lobes (Figure 1) and thick linear hyperintense tract involving posterior limb of right internal capsule and right cerebral peduncle suggestive of wallerian degeneration seen after 2 months of insult. Wallerian de-

generation is a progressive anterograde disintegration of axons with demyelination after an injury/insult. MRI is now advanced with many newer techniques like diffusion tensor imaging(DTI) to evaluate the other neuronal pathways as well. (1) Supratentorial infarct causing wallerian degeneration is a predictor of worse prognosis. Corticospinal tract integrity can be better evaluated by fractional anisotropy value of DTI (2).



**FIGURE 1.** MRI images of brain T2 (A and B) and FLAIR (C and D) of brain in axial plane showing chronic infarct in right fronto-parietal lobes (represented by star A) and straight hyperintensity involving the posterior limb of right internal capsule and right cerebral peduncle (represented by black arrow B, C and D).

Corresponding author:  
Dr. Manchikanti Venkatesh  
E-mail: drvenkimdrd@rediffmail.com

Article History:  
Received: 18 November 2018  
Accepted: 11 December 2018

---

**REFERENCES**

1. Chen YJ, Nabavizadeh SA, Vossough A, Kumar S, Loevner LA, Mohan S. Wallerian Degeneration Beyond the Corticospinal Tracts: Conventional and Advanced MRI Findings. *Journal of Neuroimaging*. 2017 May 1;27(3):272-80.
2. Puig J, Pedraza S, Blasco G, Daunis-I-Estadella J, Prats A, Prados F, Boada I, Castellanos M, Sánchez-González J, Remollo S, Laguillo G.

Wallerian degeneration in the corticospinal tract evaluated by diffusion tensor imaging correlates with motor deficit 30 days after middle cerebral artery ischemic stroke. *American Journal of Neuroradiology*. 2010 Aug 1;31(7):1324-30.

*Conflict of interest:* none declared

*Financial support:* none declared