

Symptomatic unilateral movement disorders due to focal thalamic lesion



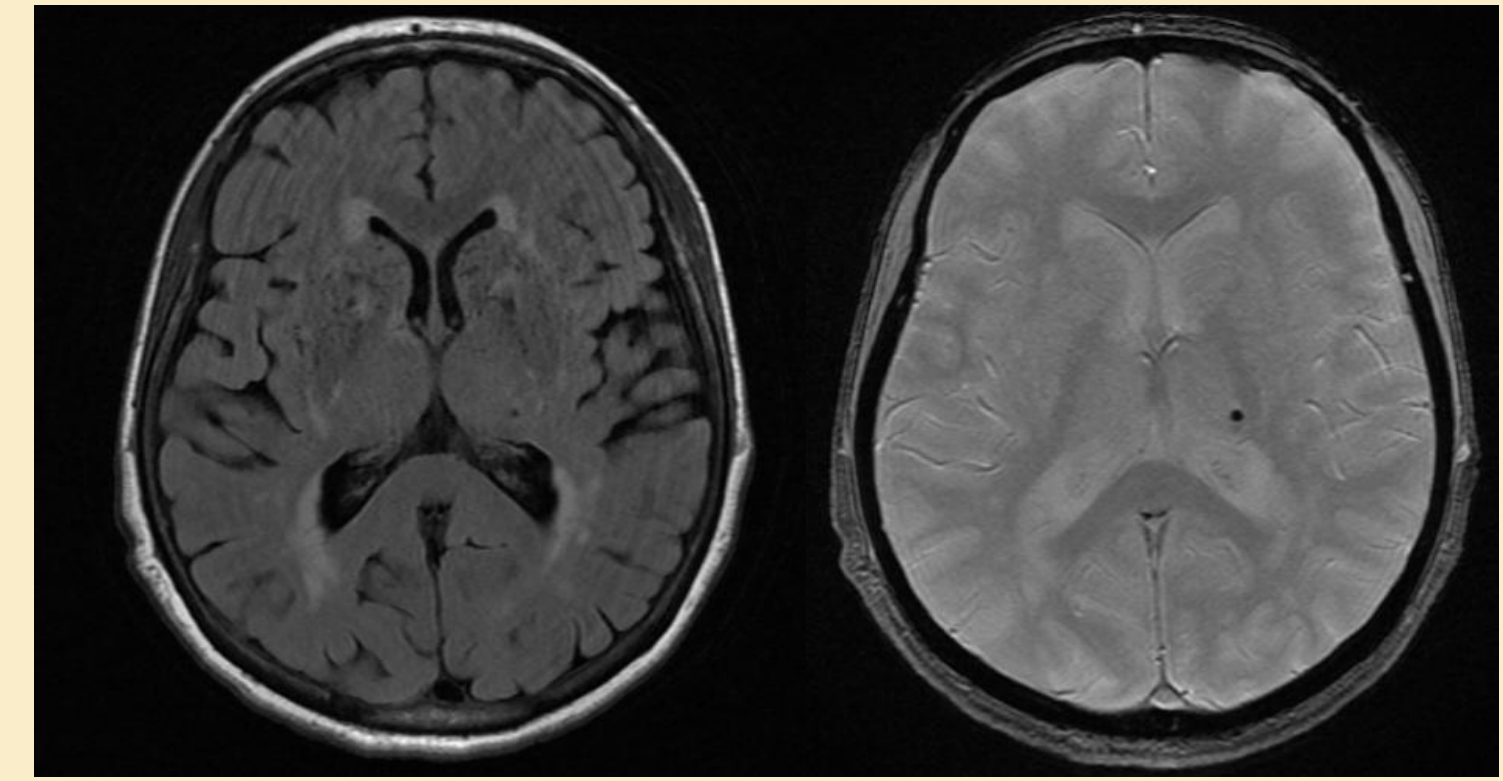
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INTRODUCTION

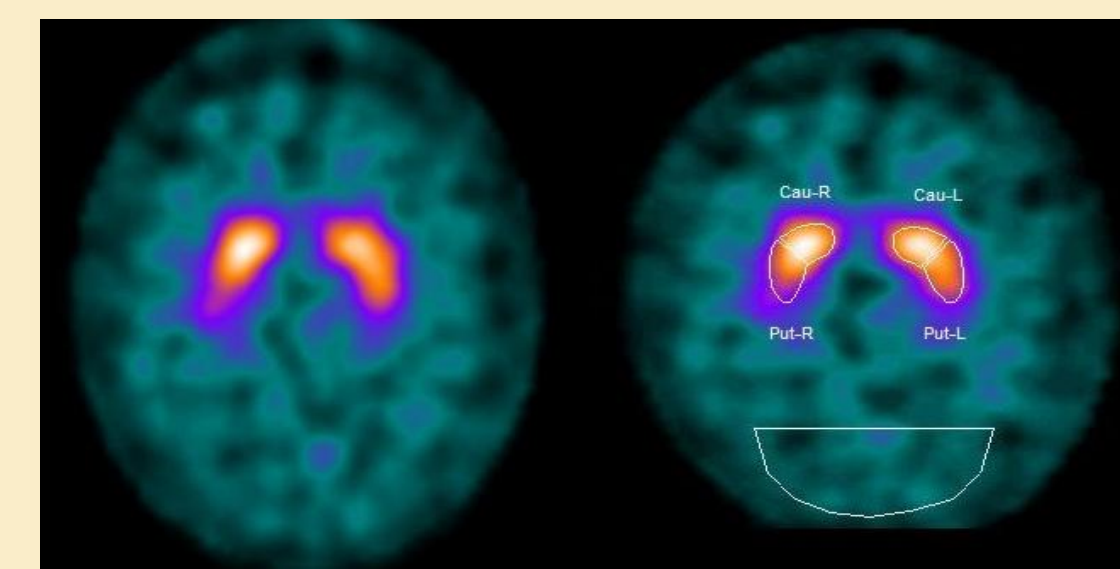
Abnormal movement disorders of the upper limb such as tremor, dystonia, myoclonus and choreoathetoid movements are rarely associated with focal thalamic lesions. Here we describe two patients with unilateral movement disorders of the upper limb related to localized thalamic infarcts.

CASE-1: A 66-year-old woman presented with one-year history of right-hand tremor. There was ten-year history of headache. Her examination revealed hand rest, postural and action irregular myoclonic tremor associated with dystonic posture of the right upper limb. Head MRI showed vascular leukoencephalopathy with left lacunar thalamic infarction. Dopamine transporter (123)I-FP-CIT-single-photon emission tomography (DAT-SPECT) demonstrated normal striatal binding. We made the diagnosis of symptomatic unilateral movement disorders related to focal thalamic lesion.

MRI : hyperintense focal lesion in the left thalamus



DAT-SPECT: normal striatal binding



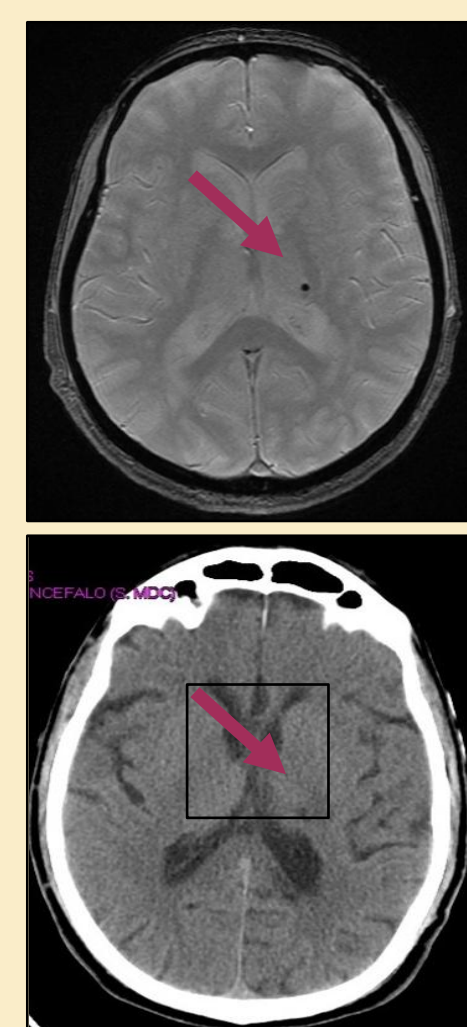
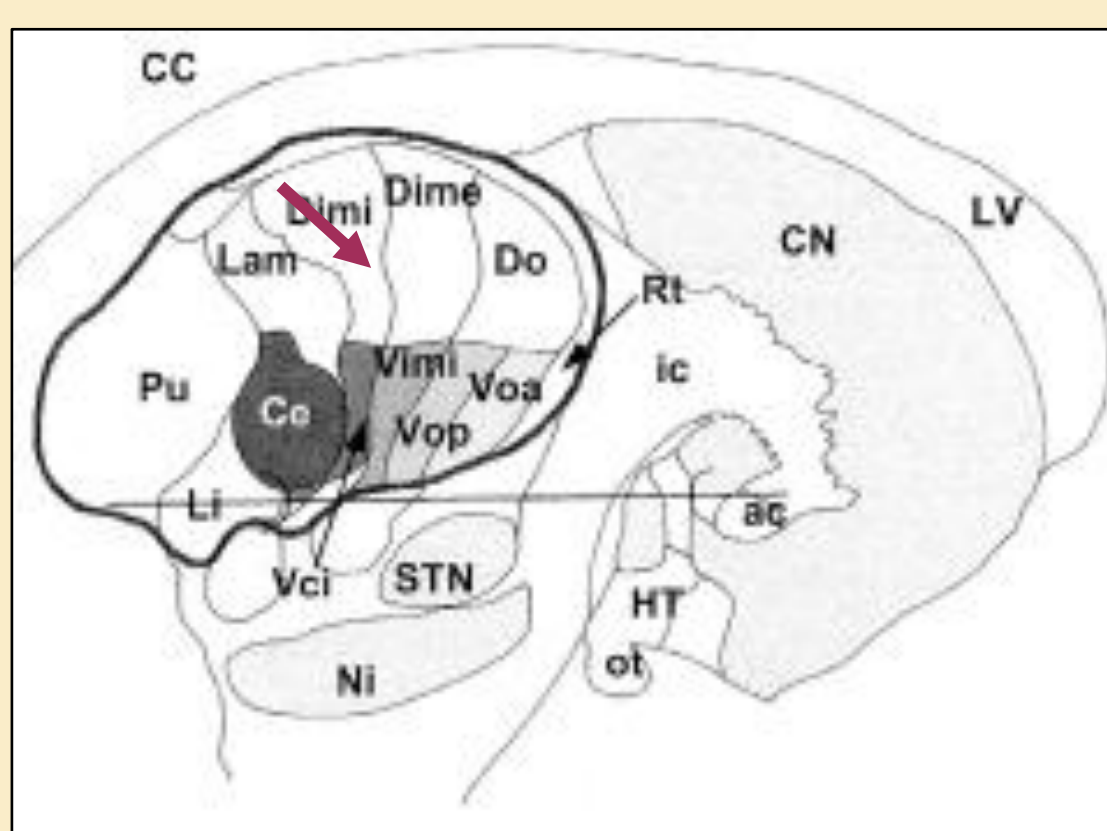
CASE-2: A 69-year-old man developed sudden-onset of abnormal involuntary movements of the right upper limb. On examination choreoathetoid movements of the upper limb appeared during voluntary movements with abnormal posture of the right hand (main thalamique). In addition there was hemiparesia. A computerized tomography scan of the head showed left localized thalamic infarction. Unilateral movement disorder of the upper limb was attributed to left thalamic infarct in this patient.



CT SCAN: hypodense focal lesion in the left thalamus

DISCUSSION: pathogenetic mechanisms of symptomatic unilateral movement disorders

Representation of the thalamic subnuclei Focal thalamic lesion

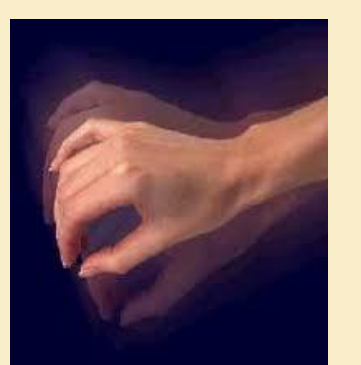


CEREBELLO-THALAMIC-CORTICAL PATHWAY

DYSFUNCTION

UNILATERAL MOVEMENT DISORDERS

PALLIDO-THALAMIC CIRCUIT



CONCLUSION

Localized thalamic infarcts produce the dysfunction of the cerebello-thalamic-cortical pathway or disruption of the pallido-thalamic circuits causing abnormal movement disorders. Indeed, in both cases all lesions were contralateral to the side of the abnormal movements. In a case, left thalamic lesion caused right-hand tremor with myoclonic jerks. While in another case, thalamic lesion caused choreoathetoid movements and the hand thalamic on the controlateral upper limb. Focal thalamic lesions should be considered in the differential diagnosis when a patient has unilateral movement disorders of the upper limb.

REFERENCES

- Lehéricy S, Grand S, Pollak P et al. Clinical characteristics and topography of lesions in movement disorders due to thalamic lesions. Neurology 2001; 57:1055-66.
- Vidailhet M, Agid Y, Pollak P et al. Pathology of symptomatic tremors. Mov Disord 1998; 13 Suppl 3:S49-S54.

