MOVEMENT DISORDERS AS RARE PRESENTATION OF ACUTE VASCULAR DISEASES: A CASE SERIES

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Introduction

Movement disorders (MDs) are a rare complication of acute stroke (1–4%), cerebrovascular disorders account for 22% of secondary MDs. Stroke-related MDs most commonly involve the basal ganglia and thalamus. MDs manifest as long-term sequelae or, less commonly, as an immediate consequence of brain ischemic or hemorrhagic insult (1). Hemiballism is a rare hyperkinetic disorder characterized by involuntary, irregular and high-amplitude movements of the limbs. Ischemic or hemorragic of the globus pallidus or striatum have been proposed as a potential pathogenic mechanism (2). We report 6 cases of acute stroke presenting with abrupt onset of Choreo-ballistic Syndrome.

Methods

We retrospectively collected 6 cases of stroke with acute onset of MDs followed up from May 2022 to May 2025. We assessed patients'age at onset, sex, cardiovascular risk factors, TOAST classification and characteristics of neuroimaging. Moreover, we collected data on administered therapy and the presence of epileptiform discharges.

Results and discussion

Mean age at diagnosis was 81 (SD ±3). Ischemic stroke was the most common etiology, with only one case of hemorrhagic stroke. Arterial hypertension was the most prevalent vascular risk factor (83%), followed by dyslipidemia (50%). All patients with positive neuroimaging showed lesions involving basal ganglia structures and exhibited contralateral symptomatology: only one patient presented also a hemorrhagic lesion of the thalamus. In accordance with the inclusion criteria for reperfusion therapy, two ischemic stroke patients received intravenous thrombolysis. Among those not treated with revascularization, symptomatic therapy with haloperidol was administered. All patients presented complete or significant resolution of movement disorders. Only one patient presented also epilettiform discharges.

Table 1: clinical findings in patients with choreo-ballistic syndrome

	Case #1	Case #2	Case #3	Case #4	Case #5	Case #6
Age (years)	83	81	76	81	81	85
Gender	F	F	F	F	F	M
Stroke	Hemorragic	Ischemic	Ischemic	Ischemic	Ischemic	TIA
TOAST	/	Cardio-embolic	Criptogenyc	Small vessels	Large artery	/
TC head in acute	Positive	Negative	Negative	Negative	Negative	Negative
Control TC - MRI	Unaltered	New finds	Negative	New finds	New finds	Negative
Lesion side	Right	Right	/	Left	Left	/
Contralateral symptoms	Y	Y	/	Y	Y	/
Lesion site	Globus Pallidus, Internal Capsule, Thalamus	Putamen	/	Diffuse Gliosis	Putamen	/
Thrombolysis	N	N	Y	Y	N	N
Symptomatic treatment	Haloperidol, Clonazepam	/	/	/	Haloperidol	/
Epilettiform discharges	N	N	N	Y	N	N

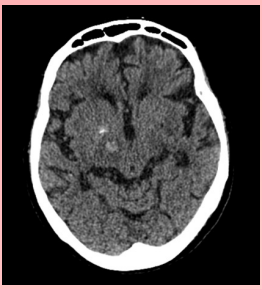

Figure 1. Axial projection of Non-Contrast brain CT of a patient with acute onset of hemiballic syndrome in the right hemisoma with hemorrhagic stroke.

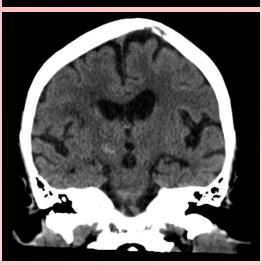

Figure 2. Coronal projection of Non-Contrast brain CT of the patient mentioned above.

Conclusions

Data regarding MDs as the first and unique manifestation of ischemic stroke are lacking: their recognition is critical to ensure timely consideration of reperfusion therapy (3). We reported our clinical experience in MDs as acute and unique manifestation of acute stroke. In our case series, acute hemicorea was the predominant stroke related MDs. In the emergency setting, the prompt recognition of a MDs as an acute cerebrovascular event helps to better select patients that are eligible for rTPA and may reduce post-stroke functional impairment.

References

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