Isolated middle cerebral artery dissection, a rare cause of stroke

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Introduction: Intracerebral arterial dissection (IAD) is a rarely observed stroke cause.

Case Report: A 44-year-old male, Krav Maga instructor, without pathological history, was admitted at our emergency department after a transient episode of left upper limb (LUP) paresis that took five minutes to recover. He reported a similar episode of LUP paresis 7 days before, after Krav Maga training, with complete recovery after 30 seconds, accompanied by right temporoparietal headache that lasted 2 days. At the emergency department his neurological exam was normal but his cerebral tomography (CT) revealed multiple hypodensities in the distal right middle cerebral artery (RMCA) territory. CT angiography showed M1-RMCA filiform stenosis. 2 days later, he underwent a cerebral magnetic resonance (MR) which revealed multiple superficial and deep hypersignal foci in RMCA territory with diffusion restriction. 3D TOF MR angiography showed incipient irregularities of signal intensity in M1-RMCA and transcranial Doppler revealed focal acceleration of flow velocity in that arterial segment (systolic velocity peak 265 cm/s and stenosis/pre-stenosis index of 4.8). The biochemical, serological and immunological studies were unremarkable, besides dyslipidemia. The remaining investigation (transesophageal echocardiogram, Holter-EKG) was normal. Cerebral angiography, one month after admission, showed normalization of the RMCA caliber, without other changes. Thus, IAD, probably traumatic, was assumed to be the most likely diagnosis. The patient was discharged without neurological deficits with indication for dual antiplatelet therapy, high-intensity statin and high-impact sports deprivation.

Conclusion: IAD’s available literature is scarce, incidence and pathophysiology remain not fully understood.