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Rosary-Like Pattern Calcified Lesions: An Unusual Manifestation of Ipsilateral Carotid Artery Stenosis

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Case Report

A 72-year-old man presented with a 6-month history of frequent falls, urinary incontinence, 25 kg weight loss and progressive slowing of thought processes. Examination revealed severely impaired visual construction, paucity of speech without evidence of dysphasia or dysarthria, and left-side inattention, hemiparesis, hyperreflexia and Babinski sign.

A noncontrast CT scan showed linearly distributed calcified lesions in a 'rosary-like' pattern parallel to the border of the right lateral ventricle (fig. 1a, b). Diffusion-weighted imaging demonstrated linearly distributed small corona radiata acute infarcts. Digital subtraction angiography revealed severe stenosis (>99%) at the origin of the right internal carotid artery.

Discussion

Our patient's symptoms and deficits likely represent the cumulative effect of chronic internal border zone infarcts [1] in the setting of severe ipsilateral carotid artery stenosis. Periventricular

white matter lesions have been well described in association with carotid artery stenosis [2], but the finding of extensive calcified lesions in a linear periventricular rosary-like pattern is an unusual and unreported presentation of this condition. In stroke patients with complete carotid artery occlusion, Derdeyn et al. [3] have noted a variety of radiological patterns including internal border zone infarction within the middle cerebral artery territory and have suggested that a synergistic effect between embolic and hemodynamic mechanisms may contribute to large-artery thromboembolic stroke. We propose that the finding of rosary-like pattern calcified lesions should trigger specific investigations to rule out ipsilateral carotid artery stenosis.

References

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Fig. 1. Right-hemisphere periventricular rosary-like pattern calcified lesions on noncontrast CT.