Cheiro-oral syndrome secondary to thalamic infarction: a clinical syndrome a physician should know

Chiew Sern Ong, Jiaqing Xiong, You Jiang Tan

DESCRIPTION
A 79-year-old Indian man presented acutely to our centre with numbness over his left perioral region and the fingertips on his left hand. These symptoms began simultaneously earlier in the day. He has significant vascular risk factors of ischaemic heart disease, hypertension, hyperlipidaemia and diabetes mellitus. Examination revealed sensory deficits to pain and discriminative touch over his left perioral region and the fingertips of his left second to fifth digits. There were no motor or cranial nerve deficits. Brain MRI showed an acute infarct involving the right thalamus (figure 1A,B). Magnetic resonance angiography showed diffuse atherosclerosis of the intracranial vessels. The mechanism of the ischaemic stroke was attributed to small vessel disease. He was started on anti-platelet therapy, and the control of his vascular risk factors was improved. His symptoms have completely resolved when reviewed a month after discharge.

Cheiro-oral syndrome is a rare variant of thalamic stroke syndromes, with sensory impairment involving the fingers and the perioral regions. It is poorly recognised, and is easily missed and discounted due to the atypicality in the geographical extent of the clinical symptoms and signs. It was first described by Sittig, who described the cortical localisation of the offending lesion. Thalamic lesions were subsequently reported later by other authors. Satpute’s group further classified the syndrome into four types based on the distribution of sensory deficits (table 1), of which type I best describes our patient’s clinical symptoms and signs.

The thalamus is a vital relay centre in the brain. Nearly all pathways projecting to the cortex pass through the thalamus. With a total of seven relay nuclei, the ventral posterior medial (VPM) and the ventral posterior lateral (VPL) thalamic nuclei are especially relevant in the pathogenesis of cheiro-oral syndrome. The VPM receives sensory input from the trigeminal nerve, whereas the VPL nuclei receives sensory input from the upper limbs. Due to their proximity, structural lesions such as an infarct can result in the pattern of sensory deficits characteristic of the syndrome, as demonstrated by our patient.

The clinical significance of cheiro-oral syndrome cannot be understated. Prompt recognition allows for early identification and treatment of ischaemic strokes. Conversely, failure to do so has detrimental implications, resulting in delaying targeted stroke treatment, and places the patient at increased risk of stroke recurrences and its inherent morbidity and mortality. Through the case described herein, we therefore seek to highlight the importance of recognising this uncommon stroke syndrome, so that timely treatment may be administered.

Table 1  Types of cheiro-oral syndrome

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Learning points
- Cheiro-oral syndrome, though rare, has significant localising value.
- Cheiro-oral syndrome can be caused by ischaemic strokes, and should not be missed.

Figure 1  (A) DWI sequence of MRI brain showing acute infarction of the right thalamus. (B) ADC sequence of MRI brain showing acute infarction of the right thalamus. DWI, diffusion weighted imaging; ADC, apparent diffusion coefficient.

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REFERENCES