Teaching Video NeuroImage: Choreoathetosis and Focal Dystonia in Vitamin B₁₂ Deficiency

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An 87-year-old man presented with involuntary movements of his fingers for 3 months. Clinical examination showed dystonia with choreoathetosis of his hands and fingers (Video 1). Pinprick sensation was reduced to ankles and vibration sense was absent up to shoulders and costal margin bilaterally. Investigations revealed hemoglobin of 10.1 g/dL, mean corpuscular volume of 94.6 fL, vitamin B₁₂ level of <92 pmol/L, and the presence of antiparietal cell antibody. He was diagnosed with pernicious anemia and treated with intramuscular cyanocobalamin (1,000 µg weekly for 4 weeks then monthly). Reassessment 2 months later showed significant clinical improvement and normalized vitamin B₁₂ level of 534 pmol/L. Pseudoathetosis—a slow, writhing movement of the distal extremities seen in severe sensory neuropathy—was also considered. However, the patient's movements did not worsen with eye closure. Severe vitamin B₁₂ deficiency may result in chorea, myoclonus, tremor, and dystonia.¹ These manifestations, possibly a result of basal ganglia dysfunction, are rare but important to recognize as they are largely reversible with supplementation.²

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Disclosure

The authors report no disclosures relevant to the manuscript. Go to [Neurology.org/N](https://www.neurology.org/N) for full disclosures.

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Name	Location	Contribution
Chen Fei Ng, MD, MRCP Neurology	Universiti Kebangsaan Malaysia Medical Centre, Kuala Lumpur, Malaysia	Clinical care of the patient, data acquisition, literature review, drafting and revising the manuscript
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