

Teaching Video Neurolmages

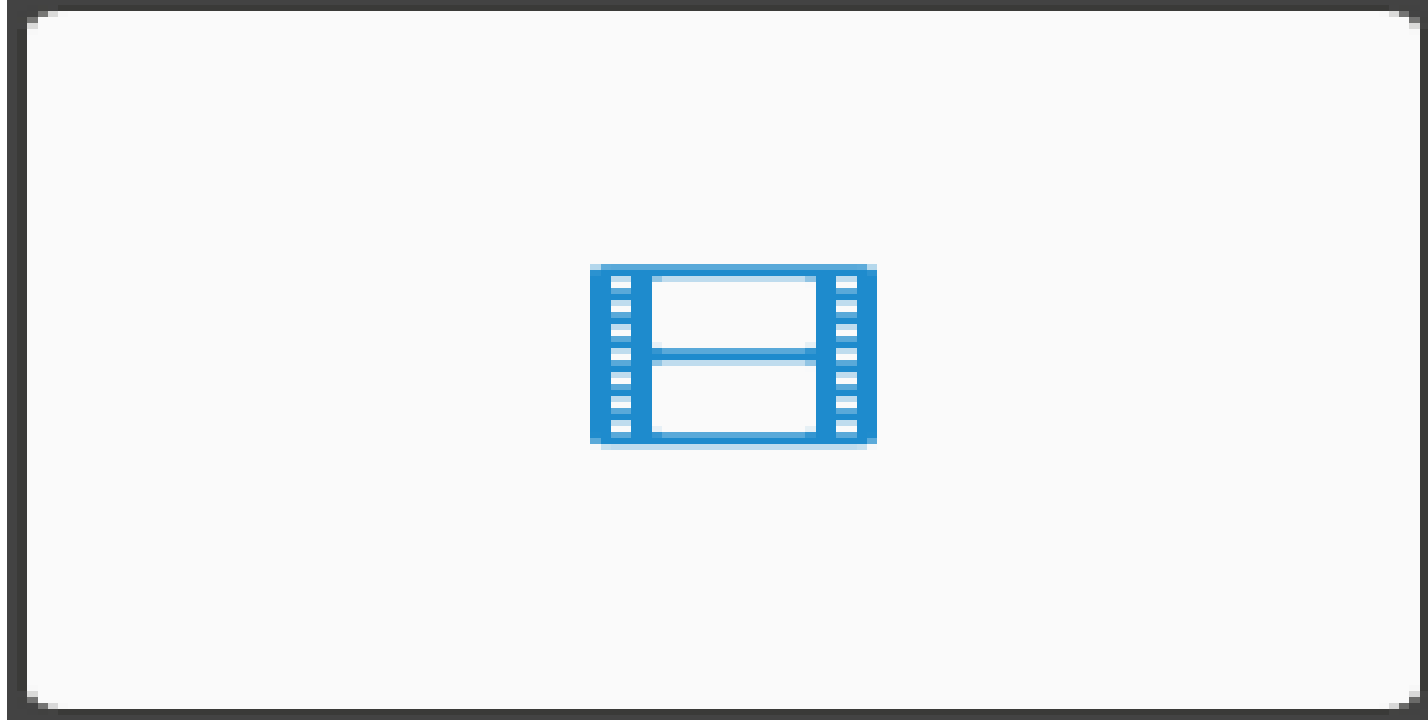
Neurology®

Resident & Fellow Section

Vignette

- We describe an 87-year-old man who presented with dystonia and choreoathetosis of the hands and fingers for three months.
- Investigations revealed hemoglobin of 10.1 g/L, mean cell volume of 94.6 fl, vitamin B-12 level of < 92 pmol/L (below the detection limit) and the presence of anti-parietal cell antibody.
- He was diagnosed with pernicious anemia and treated with high doses of cyanocobalamin (1000 µg weekly for four weeks and monthly thereafter).
- A follow-up visit two months later showed significant clinical improvement with normalized vitamin B-12 level of 534 pmol/L.

Video



Choreoathetosis and Focal Dystonia in Vitamin B-12 Deficiency

- The elevated serum homocysteine and methyltetrahydrofolate as a result of vitamin B-12 deficiency has been postulated to mediate movement disorders.
- Homocysteine acts as an agonist at the N-methyl-D-aspartate (NMDA) receptor and produces excitatory activity in the basal ganglia through thalamocortical pathway and leading to dystonia.
- Choreoathetosis and dystonia are rare manifestations of severe vitamin B-12 deficiency. Early recognition is pivotal as they are reversible with vitamin B-12 supplementation.

