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Hoffman Sign

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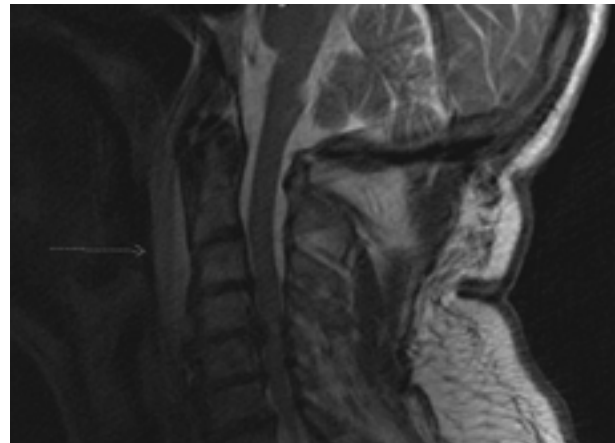
A 70-year-old male was found face down on his bathroom floor after taking additional doses of his prescribed clonazepam 1 mg tablets. He lived alone and reported that he was on the floor for greater than ten hours. Neurologic exam revealed 1/5 hand grip and tricep extension. He was noted to have 3+ reflexes at the triceps, brachioradialis, patella, and 17 beats of clonus was noted in both ankles with significantly increased lower extremity tone. A positive Hoffmann reflex was observed (video). MRI of the cervical spine showed posterior ridging and a disc-osteophyte complex at C5-C6 causing severe canal stenosis without edema (image). He was diagnosed with central cord syndrome and treated with supportive care. The patient was able to stand and take steps with moderate assistance at 2 weeks, although intrinsic hand muscle weakness (2/5 strength) persisted through his hospital and rehab stay. He was discharged to a nursing home one month after admission.

The Hoffmann sign was first proposed by Hans Curshmann in 1911, who named it in honor of his professor Johann Hoffmann¹. A true Hoffmann sign is present when an examiner flicks the middle finger downward and an involuntary flexion of both the ipsilateral thumb and first finger is produced². The finding has good intra- and inter-examiner reliability (kappa: 0.89 and 0.73 respectively)³. Its presence suggests cervical cord compression, with a positive likelihood ratio (LR) of 2.6 (95% CI: 1.8-3.9) and a negative LR of 0.51 (95% CI: 0.3-0.9). (3) However, this finding is believed to be present in up to 0.7-2% of asymptomatic healthy patients without cervical cord pathology⁴. Assuming a pre-test probability of 10 to 90% on history and other exam findings, the presence of this finding can increase the post-test probability of disease, but its absence would not be clinically useful³.

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Figure 1: MRI of cervical spine showed posterior ridging and a disc-osteophyte complex at C5-C6 causing severe canal stenosis without edema.



Interactive: Click to play video online.

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