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Teaching NeuroImages: Fluorosis: A Forgotten Cause of Compressive Myelopathy

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Contributions:

Alvee Saluja: Drafting/revision of the manuscript for content, including medical writing for content; Major role in the acquisition of data; Study concept or design

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A 26-year-old gentleman having restricted neck movements for 4 years developed progressive quadriplegia with bladder-bowel involvement over 15 days. His parents and local village residents reported similar symptoms. Hemogram, biochemistry (including vitamin D) analysis was normal. X-ray bilateral forearm showed interosseous membrane calcification (Figure 1). Bone densitometry at distal radius showed Z score of -2.5. MRI cervico-dorsal spine revealed multi-level disco-osteophytic complexes at C3-C4, C6-C7 with ossified ligamentum flavum causing cord compression (Figure 2). Excess drinking water fluoride causes osteoblast and osteoclast activation resulting in peri-osseous tissue ossification and immature bone deposition. Sclerosed ligaments/osteophytes due to fluorosis can cause compressive myelopathy in endemic areas.^[1,2]

Figure 1. Fluorosis-Interosseous Membrane Calcification

X-ray Bilateral Forearm (AP view) showing interosseous membrane calcification (yellow marker)

Figure 2. Compressive Cervical Myelopathy due to Fluorosis

MRI cervical spine (T2 Saggital sequence) showing ossification of dens(yellow marker) and disco-osteophytic complex at the level of C3-C4(blue marker) causing cord compression.

Appendix 1. Authors

Name	Location	Contribution
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Teaching Slides -- <http://links.lww.com/WNL/B452>

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