A Rare Cause of Neck Pain and Torticollis

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Keypoints

What is known:

- Idiopathic intervertebral disc calcification is a rare condition, characterized by calcification of one or more intervertebral discs.
- Prevalence seems to be greater in males and children in the age range of 5-9 years.

What is added:

- Awareness about idiopathic intervertebral disc calcification is important in the differential diagnosis of neck or back pain and acquired torticollis to prevent unnecessary and invasive work-up (namely lumbar puncture).
- Idiopathic intervertebral disc calcification is a benign condition, usually resolving spontaneously within weeks or months. Surgical intervention is rarely needed.

Introduction

A 5-year-old previously healthy girl presented with sudden-onset neck pain being aggravated by movements, as well as persistent torticollis that had started four days before evaluation. There was a poor response to nonsteroidal anti-inflammatory drugs and diazepam. No trauma, recent infection, fever, or other systemic symptoms were reported. Physical examination revealed lateral twisting of the neck, with head tilting to the right and chin turned to the left, and contracture of neck muscles. Flexion, extension, and lateral movements of the neck were limited and aggravated the pain. There were no other physical pathologic findings, including neurologic deficits. Idiopathic intervertebral disc calcification was diagnosed using a cervical spine radiograph, which showed a calcified density lesion in the central part of the intervertebral disc at the C5-C6 level (Fig. 1). Cervical computed tomography (Fig. 2) scan and magnetic resonance imaging (Fig. 3) was conducted to investigate the findings and exclude complications. The results confirmed the presence of a focal calcified lesion in the nucleus pulposus of the C5-C6 intervertebral disc. The case was managed conservatively, with limited physical activity and intake of nonsteroidal anti-inflammatory drugs as required for pain control. A month after the initial presentation, the symptoms were fully resolved. Follow-up magnetic resonance imaging, three years after diagnosis, showed resolution of the calcification.

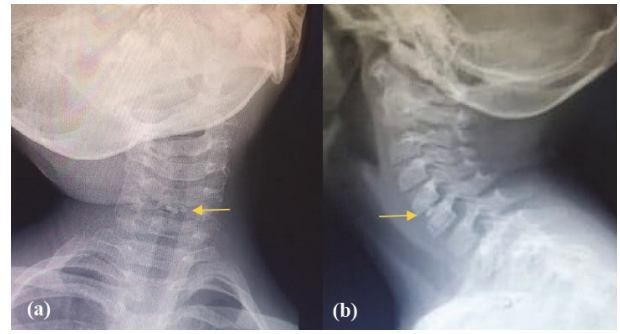

Figure 1. Cervical anterior-posterior (a) and lateral (b) radiographs. The arrow pointing to the calcified density lesion found at the C5-C6 level.

Figure 2. Coronal plain of cervical computed tomography scan showing a calcified central lesion at C5-C6 intervertebral disc level (arrow).

Idiopathic intervertebral disc calcification is a rare condition with an unclear but presumably multifactorial etiology, characterized by calcification in one or more intervertebral discs, generally at lower cervical and/or thoracic level.[1] The prevalence seems to be greater in males, mainly affecting children in the age range of

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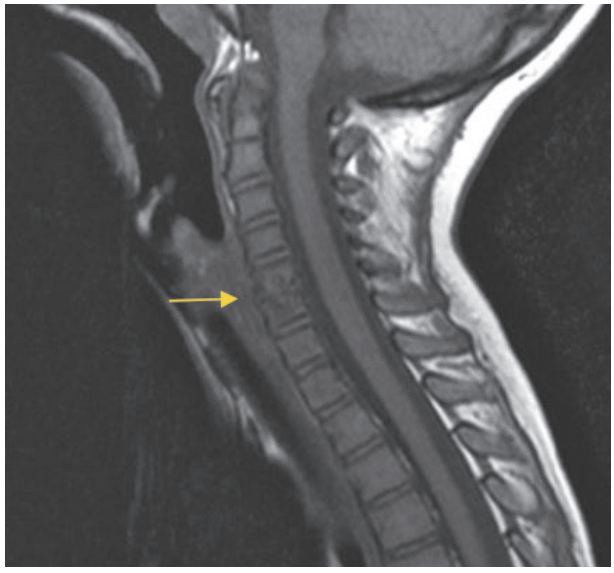

Figure 3. Sagittal plane of cervical magnetic resonance imaging showing a hypo-intense focal area in C5-C6 intervertebral disc (arrow).

5-9 years.[1-3] Idiopathic intervertebral disc calcification can be asymptomatic and discovered incidentally.[1,2] However, it is important to recognize this condition in the differential diagnosis of neck or back pain and acquired torticollis with no apparent cause. Although radiograph can be diagnostic,[4] advanced imaging studies are always necessary to exclude malignant conditions, confirm spinal cord and nerve root integrity, and exclude atlantoaxial rotatory displacement in cases presenting with torticollis. Magnetic resonance imaging is the modality of choice. In our case, computed tomography was also performed since it was readily available in the emergency department. As represented in this case, idiopathic intervertebral disc calcification is a benign condition, usually resolving spontaneously within weeks or months.[1,2,5] Although uncommon, such complications as disc herniation and spinal cord compression may occur, causing neurologic symptoms that require surgical intervention in cases of severe impairment.[5]

Keywords: Calcinosis/complications; Calcinosis/diagnostic imaging; Child, Preschool; Intervertebral Disc Degeneration/complications; Intervertebral Disc Calcification/diagnostic imaging; Neck Pain/diagnostic imaging; Torticollis/diagnostic imaging

Author Contribuitions

AIBF participated in the study conception or design. AIBF participated in acquisition of data. AIBF, MC and MS participated in the analysis or interpretation of data. AIBF participated in the drafting of the manuscript. AIBF, MC and MS participated in the critical revision of the manuscript. All authors approved the final manuscript and are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflicts of Interest

The authors declare that there were no conflicts of interest in conducting this work.

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Protection of human and animal subjects

The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki 2013).

Provenance and peer review

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Confidentiality of data

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

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