

Letter to Editor

## Intervertebral disc calcification in childhood: Case report and review of relevant literature

Sir,

Idiopathic IDC of childhood is a rare benign self-limited condition. It is generally asymptomatic and incidentally diagnosed during evaluations of nonspecific clinical complaints.<sup>[1]</sup> Clinical relevance of such finding is limited to rare symptomatic cases.

We briefly mention the case of a 7-year-old child who reported a recent episode of short-term mild back pain not preceded by trauma and not associated with local changes in temperature, dysesthesia, and/or blood tests alteration. Spinal X-ray performed on that occasion showed calcifications in two dorsal intersomatic spaces [Figure 1]. Magnetic resonance imaging (MRI) confirmed the X-ray findings and ruled out any alteration of vertebral canal, paravertebral soft tissues, or spinal cord [Figure 2].

Idiopathic IDC of childhood are probably related to developmental changes of the disc or flogosis triggered by moderate traumas.<sup>[2]</sup> Such findings show average presenting age of about 7 years,<sup>[3]</sup> slightly higher frequency among males. They typically involve the nucleus pulposus and cervical spine is their most common location, although every tract of the vertebral column can be affected and multiple localization is not rare.<sup>[4]</sup> In adulthood, IDC involve the annulus fibrosus and mostly occur at several levels of the thoracolumbar spine.<sup>[5]</sup>

Symptomatic cases are usually characterized by abrupt onset with pain, low-grade fever, and slight increase in flogosis indexes. Mostly, no trauma is reported because children find it difficult to describe the pain onset. A fast spontaneous symptom resolution usually coincides with resorption of the calcific foci. Long-lasting persistent calcifications may be associated with chronic back pain, scoliosis, loss of vertebral height and osteophytes. Surgical therapy is required in rare cases associated with neurological symptoms due to posterior herniations causing medullary/nervous compression, while conservative therapy is usually satisfactory.<sup>[1]</sup>

Plain X-ray, often the first diagnostic step, allows detection of IDC and provides evidences for differential diagnosis with inflammatory/post-inflammatory calcifications. IDC of children appear as intensely radiopaque oval/round-

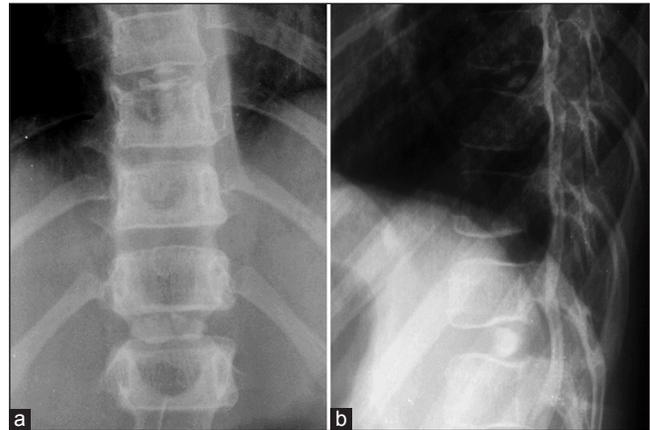


Figure 1: Spine X-ray showed disc calcifications in D8-D9 and D11-D12 as oval radiopaque spots in the rear part of intervertebral spaces (a) Adjacent vertebral body plates showed mild impressions coinciding with calcifications (b)

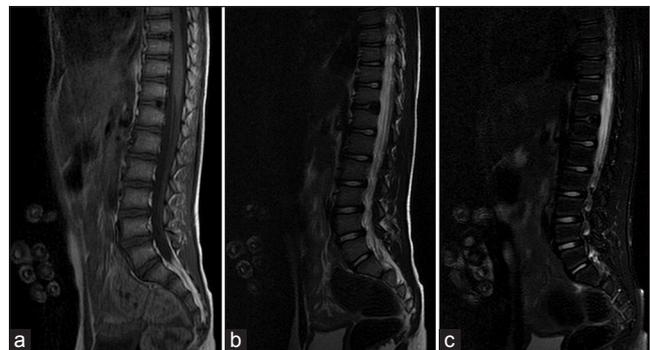


Figure 2: Sagittal T1-weighted (a) T2-weighted (b) and fat-suppression (c) MR images showed hypointense spots in the rear portion of the discs in D8-D9 and D11-D12 (a and b). Paravertebral soft tissues, spinal cord, and neighboring vertebral bodies showed normal signal (c) MR = Magnetic resonance

shaped centrally-located spots affecting one or more intervertebral spaces [Figure 1]. Light changes in the adjacent vertebral bodies (e. g., endplate impressions) are frequently reported.<sup>[4]</sup> IDC take several months to become radiologically evident, while their resorption is earlier and usually preceded by fragmentation.

Computed tomography (CT) allows an overall evaluation of the involved spinal tract and a better definition of the disc. Mild deformities of adjacent vertebral bodies, disc herniations and involvement of spinal cord, nerve roots or adjacent ligament can also be demonstrated.<sup>[1]</sup> Although CT is better tolerated because of shorter duration, MRI is better as second-level-method because it doesn't imply children exposition to ionizing radiations and allows better evaluation of discs, adjacent soft structures, spongy bone edema, and spinal cord/nerve roots compression.<sup>[4]</sup> On

MRI, idiopathic IDC of children appear as hypointense disc spots on T1- and T2-weighted images. Hyperintensity due to edema can be observed in neighboring vertebral bodies on fat-suppression sequences. No enhancement is observed after intravenous injection of gadolinium. In our case report, IDC showed typical MRI appearance [Figure 2]. Unlike other methods, MRI allows accurate detection and assessment of inflammatory involvement of adjacent structures, such as vertebral spongy bone edema and active enthesopathy of the posterior longitudinal ligament.

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