

Orthopaedic Hospital of the Invalid Foundation, Helsinki, Finland

INTERVERTEBRAL DISC CALCIFICATION WITH COMPLETE PROTRUSION INTRASPONGIALLY

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Calcification of the intervertebral disc, which was first described by Calvé & Galland in 1922, is relatively common in adults. Its incidence increases with age. The condition is considerably less common in children (Bjelkhagen & Gladnikoff 1957).

In adulthood the changes are localised in the region of the lower thoracic spine and lumbar spine. The etiology of intervertebral disc calcification is not known. It has been assumed that difference in vascularisation at different ages is the reason for the age-related changes in the manifestation of the condition (Schorr & Adler 1954). The intervertebral disc has a good circulation until the age of 10-20 years, after which it becomes conspicuously poorer. Trauma, overstrain, changes due to old age and disturbance in the calcium metabolism have been suggested as etiologic factors in calcification of the disc. A traumatic etiology is clear in some individual cases (Eyring et al. 1964, Sandström 1951, Taylor 1966).

Most of the calcifications are completely asymptomatic. Symptoms that may occur are pain, limitation of movement and local tenderness. Elevation of temperature and the sedimentation rate as well as leukocytosis are sometimes seen in children (Walker 1954).

A calcified intervertebral disc may prolapse like a normal disc. Posterior, lateral and also anterior prolapse of calcified disc has also been reported (Caffey 1961, Maccartee et al. 1972, Walker 1954, Williams 1954).

CASE REPORT

The patient was a fitter aged 55. He had been in good general health. A month before admission the patient had felt pain around the lower part of the thoracic spine. The pain radiated piercingly to the ventral side of the thorax. Roentgenologic

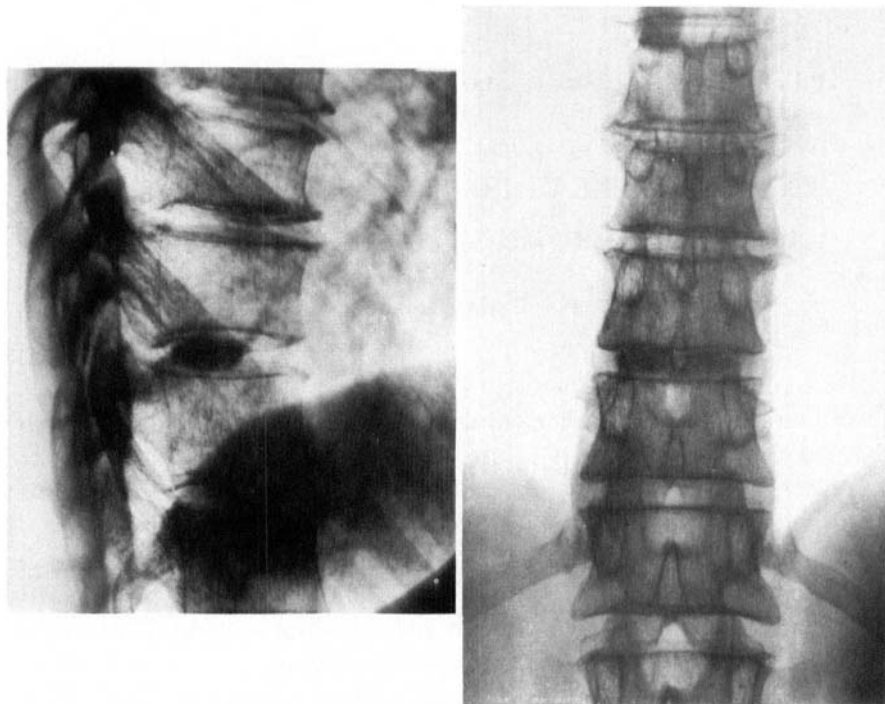


Figure 1. Radiograph showing calcification in intervertebral disc Th 10-11. Height of the intervertebral space 10 mm.

examination (Figure 1) revealed an extensive calcification, chiefly in the region of the nucleus pulposus, in intervertebral space Th 10-11. The patient's general condition was good, the ESR and leukocyte count were normal. The long dorsal muscles were tense and there was some limitation in bending the back. Roentgen therapy was given to the painful region during the following month but without notable benefit. Six months after the patient's first visit the pain suddenly disappeared in connection with some slight exertion. When he attended for a follow-up examination a year later the clinical status was completely normal. Roentgenologic examination (Figure 2) showed that the disc calcification previously diagnosed had prolapsed inside the spongiosa of Th 10. The intervertebral space in question had narrowed from 10 to 6 mm, during the interval between the examinations (Figures 1 and 2). Tomography (Figure 3) disclosed more distinctly an extensive intraspongiotic hernia-containing calcified tissue in Th 10. The calcified mass of tissue had decreased in the interval between the examinations.

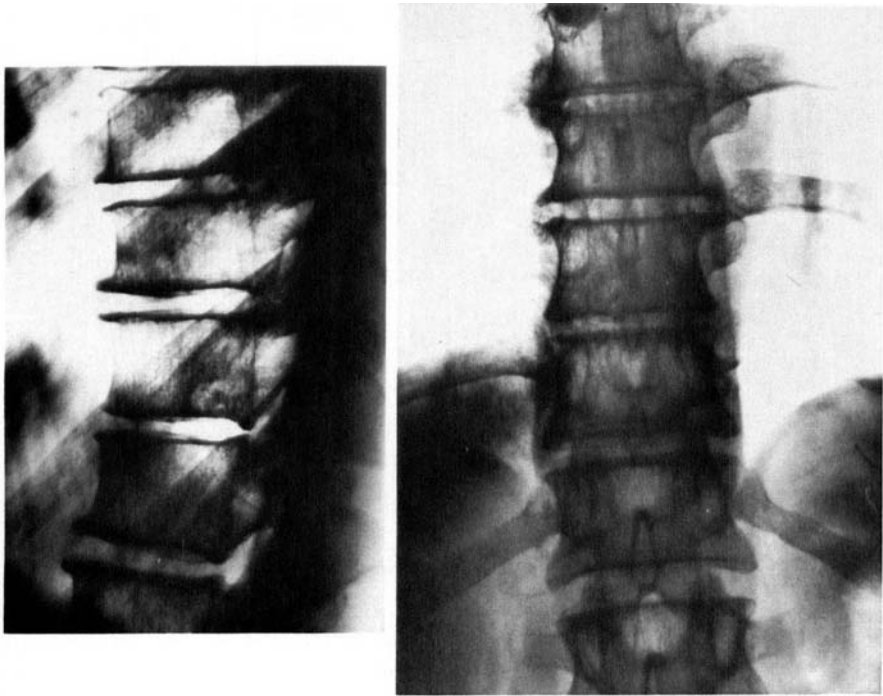


Figure 2. The height of intervertebral space Th 10-11 is 6 mm. Part of the calcified disc has prolapsed into Th 10; a part has become resorbed.

DISCUSSION

The main symptoms in this case resembled those described earlier for disc calcification.

Calcification of the disc in adults occurs most commonly in the region of the thoracic spine. It is interesting that calcified intervertebral discs are less common in the region of the lumbar spine where, again, prolapse of the disc is most common. Prolapse of a calcified disc is regarded as a rare occurrence (Maccartee et al. 1972, Williams 1954). The disc calcification symptoms of our patient disappeared, probably in conjunction with the prolapse. This may perhaps be attributed to the decrease in over-pressure in the disc at the time of prolapse. The intraspongiotic prolapse described by us has not been reported in the literature.

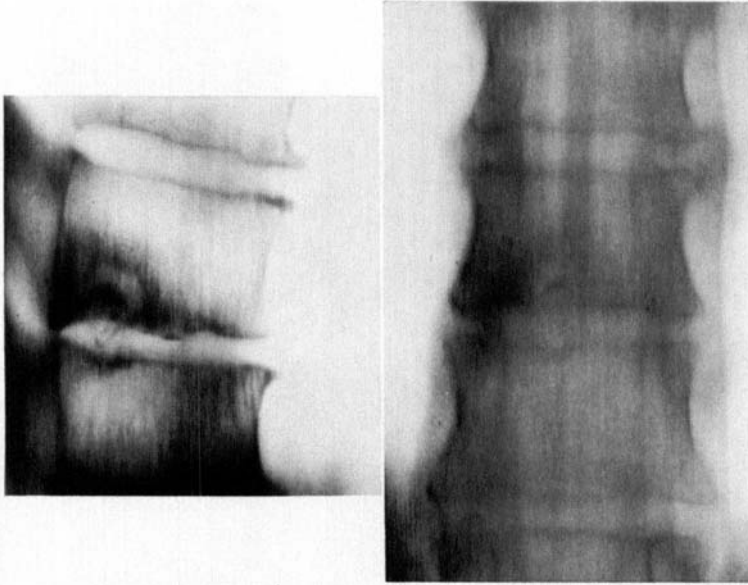


Figure 3. Tomography of the region seen in Figure 2. Disc calcification has prolapsed inside Th 10. The indication of it in Th 10 is an intraspousal cavity with sclerosed walls. Most of the calcified mass lies in the cavity of the intraspousa of Th 10, there is some calcium residue in the disc itself.

SUMMARY

The authors report a case of intervertebral disc calcification in a man of 55 years. Prolapse of calcified disc tissue into the vertebra is described.

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