

OSTEOID OSTEOMA OF THE SPINE

By

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Osteoid osteoma was diagnosed in 2,5 % of all tumors of bone, and in 9 % of all benign tumors of bone in *Dahlin's* (1) 2,276 cases. He states that 9 % probably is a too low figure.

There is a general agreement that more than 50 % are localised to the femur or tibia. The localisation to the spine is reported with varying frequency.

<i>Sherman</i> (11), own cases	7 out of 30	(i.e. 1: 4)
<i>Sherman</i> (11), literature	11 out of 120	(i.e. 1: 11)
<i>Jaffe & Lichenstein</i> (8)	3 out of 33	(i.e. 1: 11)
<i>Mustard & Duval</i> (10)	25 out of 280	(i.e. 1: 11)
<i>Freiberger et al.</i> (4), literature	33 out of 425	(i.e. 1: 13)
<i>Dockerty et al.</i> (2)	1 out of 20	(i.e. 1: 20)
<i>Freiberger et al.</i> (4), own cases	3 out of 80	(i.e. 1: 27)
<i>Dahlin</i> (1)	1 out of 57	(i.e. 1: 57)

Sherman mentions that she probably has a too high proportion because her figures originate from a hospital especially interested in this lesion. *Dahlin* feels that his figure is too low. It may be correct to say that approximately 10 % of osteoid osteomas are localised to the spine.

Usually the site is in the lamina, the facets or the processes, but not in the vertebral body.

The following case may be of interest because of the infrequency of this location. In addition, sex and age and history are typical. It is a history of pain. The other symptoms can be explained by this pain: lack of appetite, loss of sleep, incapacity to work, weakness and atrophy of right lower extremity (due to disuse). Typical is a scoliosis with its convexity to the healthy side, while I have not seen reported an increase of the lumbar lordosis. Very typically all symptoms disappeared

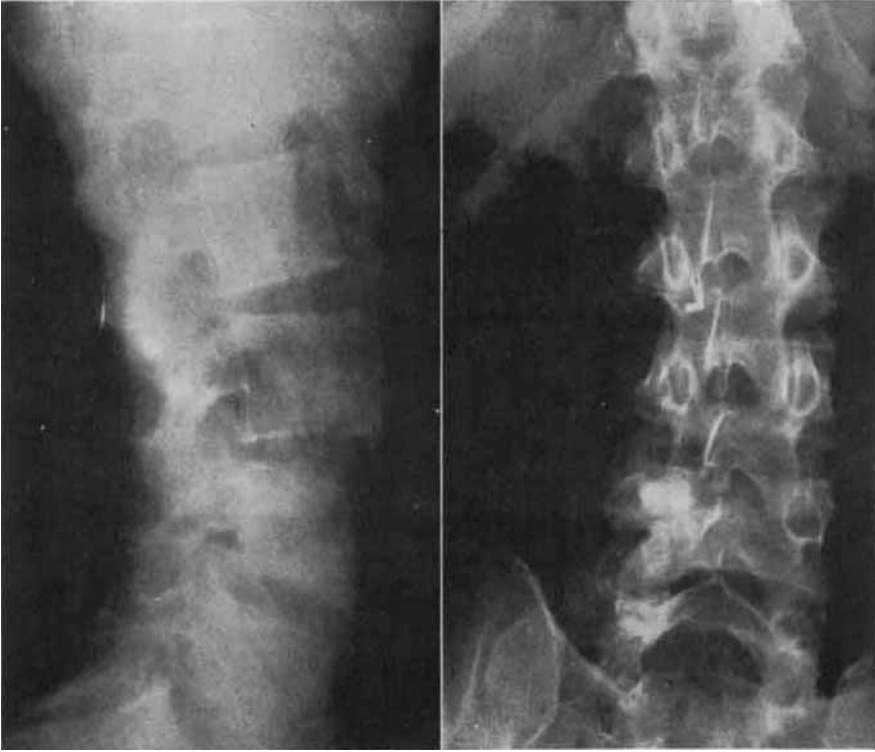


Fig. 1.

Increased lumbar lordosis. Lumbar scoliosis with convexity toward the unaffected, left side. Sclerosis in the body of fourth lumbar vertebra right half. In the lateral view there is an area of rarefaction in the sclerotic area. The discs have normal height. The psoas shadows can not be defined.

in the course of some weeks after operation. The restitution goes so far as to the filling-in of the defect on X-ray with disappearance of the sclerotic "halo".

CASE REPORT

The patient was a 21 year old man. He had pleurisy in 1954. At the same time he began to have back pain, which gradually got worse. When he was first seen, June 1959, the pain had made him unable to work for several months and he was able to be up and about only part of the day. The pain made sleep difficult and disturbed his appetite. It increased with coughing, sneezing and defecation. The pain was localised to his right lumbar region, but gradually radiated down to the right buttock and posterior side of right thigh and leg.

He complained of increasing weakness of the right lower extremity, but had noticed no change in sensibility.

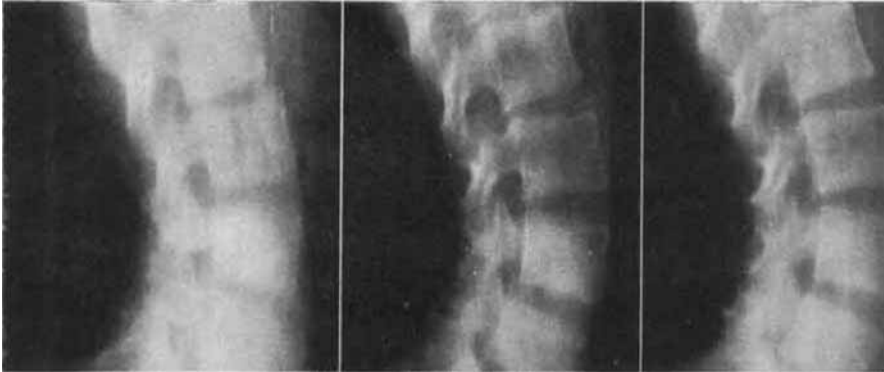


Fig. 2.

Tomography June 15th, 1959. The area of rarefaction in L 4 is seen as a defect with sharp contours. In the defect lie apomorphous calcifications.

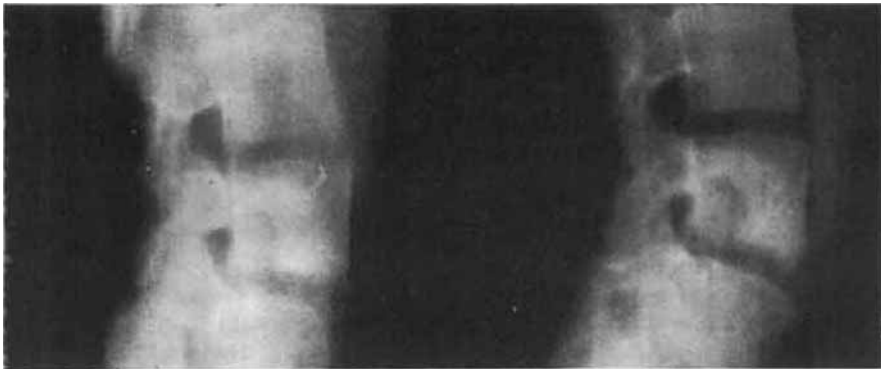


Fig. 3.

Tomography October 5th, 1959. The sharply defined defect and its surrounding "halo" of sclerotic bone is seen more clearly than before. The defect extends from the bottom of L 4 body to the arch. Perhaps it even involves the lower border of the arch, close to the body.

The disc L 4-5 is preserved.

On examination we found that he barely managed to walk, with the greatest caution, keeping the back stiff. The lumbar lordosis was markedly increased and he had a lumbar scoliosis with the convexity to the left. Forward bending and bending to the left was almost impossible, while backward bending and bending to the right as well as rotation was nearly free. He was tender over the lower lumbar spine and the back muscles were tight. The right lower extremity was slightly weak and atrophic but showed no disturbance of sensibility or reflexes. Sedimentation rate 11 mm.

X-ray showed the increased lumbar lordosis and the scoliosis. In the body of L 4 there was a density in the right part with a sharply defined, central defect. In the

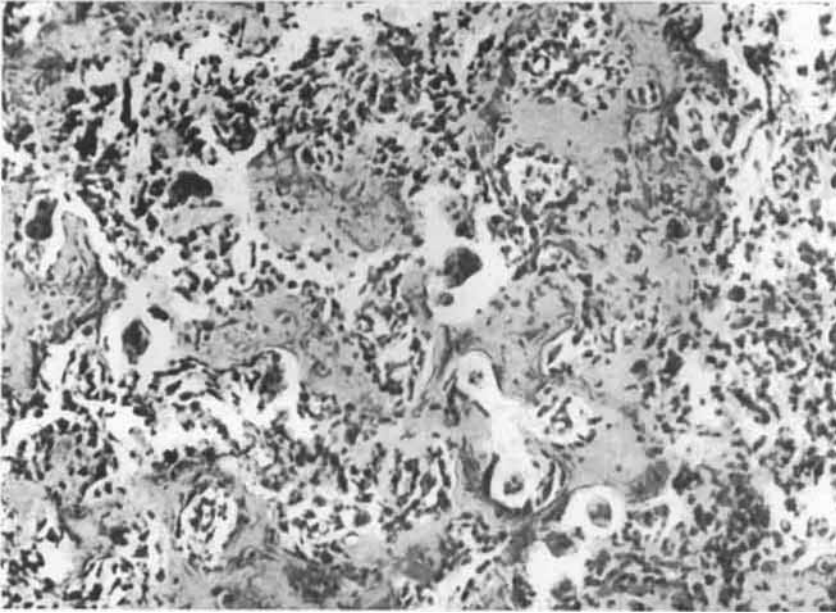


Fig. 4.

Highly vascularized connective tissue with many cells. Trabeculae of osteoid and of osseous tissue. D: osteoid osteoma.



Fig. 5.

Tomography February 16th, 1960 i.e. 4 months after operation. The lordosis is reduced to normal. The defect in the body of the fourth lumbar vertebra can still be seen, but is not so sharply defined as before. The sclerosis has disappeared. No calcifications can be seen in the defect.



Fig. 6.

Preoperative and 7½ months postoperative examination. Note the difference of lordosis. The defect has disappeared, even on tomography (not reproduced).

middle of the defect could be seen an irregular calcification which was interpreted as a sequestrum.

A diagnosis was made of probable tuberculosis and the patient got isoniazid 0,3 gram and PAS 8 gram per day while waiting for admission.

Four months later he was admitted. His condition was unchanged except that his pain was still more severe.

At operation, the body of L 4 was exposed through a rightsided kidney incision. There was no psoas abscess. We had to chisel a window through grossly normal-looking bone to get to the defect seen on X-ray. The defect contained a white, dense elastic tissue resembling intervertebral disc. We found no pus, no caseous material, no granulation tissue and no sequestrum. The defect was curetted completely.

Histological examination showed the typical picture of osteoid osteoma, while culture of the tissue showed no growth of bacilli.

One month after operation the pain had disappeared and he returned to full time work after 3 months, working as a painter. At six months control the increased lumbar lordosis, the scoliosis, the stiffness of the back, the tenderness of the lumbar spine and the tightness of the back muscles, all had disappeared. Sedimentation rate 2 mm.

X-ray four months after operation showed the sclerosis to have disappeared and the defect in L 4 to be reduced in size. X-ray 7½ months after operation showed no defect any more.

At control 14 months after operation the patient was clinically free of symptoms.

SUMMARY

The literature gives the impression that approximately 10 % of all osteoid osteomas are located to the spine. Usually the site is the lamina, facets or processes. A case is reported which was located to the body of L 4.

RESUME

De l'étude de la littérature il ressort qu'environ 10 % de tous les ostéomes ostéoïdes sont localisés dans la colonne vertébrale. Ordinairement ils siègent dans la lame, les facettes ou les apophyses. Un cas de localisation dans le corps de la 4ème vertèbre lombaire est rapporté.

ZUSAMMENFASSUNG

Aus der Litteratur erhält man den Eindruck, dass ungefähr 10 % aller osteoiden Osteomata in der Wirbelsäule lokalisiert sind. Gewöhnlich sitzen sie in den Bogen, Facetten oder Fortsätzen. Über einen Fall wird berichtet, der eine Lokalisation im Körper des 4. Lendenwirbels aufwies.

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