

Spine diseases and MRI / Radiology



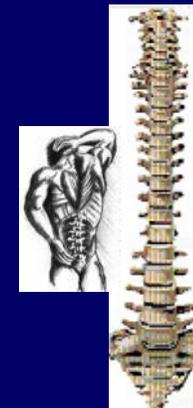
Markus Maier
Orthopädische Praxis
Starnberg am See

ESWT Summer meeting
Bergen, Norway, 24. – 26. August 2007



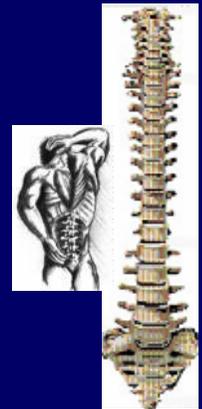
Why need imaging?

- Diagnostic standard
- Helps for better understanding the clinical symptoms
- How important is the image message?
- Before imaging: Anamnesis, clinical examination
- Occasional LBP of mid40 male
- Increasing LBP of a child
- Everyone who indicates imaging should be able to evaluate the images



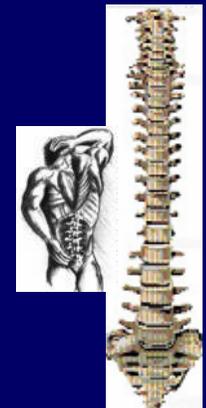
Which imaging technique?

- **X-ray radiographs**
 - **Vertebral statics**
 - **Disturbed growth**
 - Degenerative changes
 - Fractures
 - (Tumor)
 - (Inflammation)



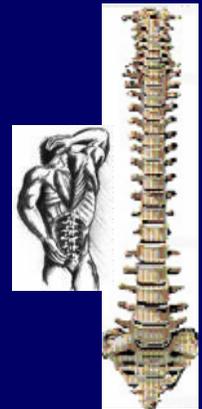
Which imaging technique?

- **X-ray radiographs/ vertebral statics**
 - Not always 2-plane imaging needed
 - In children no need for full spine imaging
 - Hip (vara/valga – HD – Perthes etc.)
 - Form of the pelvis
 - Functional vs. structural scoliosis



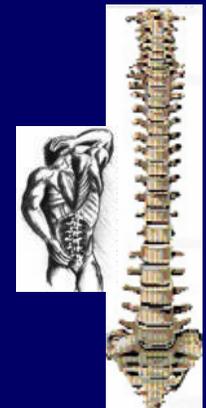
Which imaging technique?

- X-ray radiographs/ disturbed growth
 - Scoliosis
 - Morbus Scheuermann
 - To control progression: 1 plane



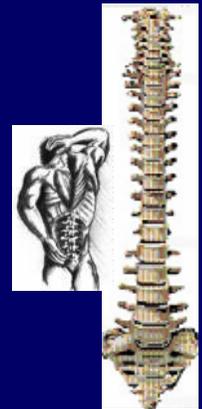
Which imaging technique?

- **MRI**
 - Nerval root compression
 - Spinal cord compression (stenosis)
 - Tumor (with x-ray and CT)
 - Infection (Leucocytes, CRP)
 - Combined with contrast application (MR-myelography)
 - Fracture (fresh – old)
 - Bony stress reactions



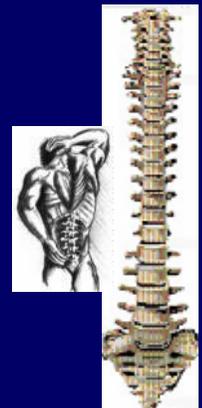
Which imaging technique?

- CT
 - Fracture



Which imaging technique?

- Ultrasound
- Bone scintigraphy
 - Occult lesions
 - Inflammation
 - Metastasis



Degeneration - Chondrosis



Abb. 354



Abb. 355



Abb. 356

Degeneration - Osteochondrosis



Abb. 357a

Abb. 357b

Degeneration - Osteochondrosis

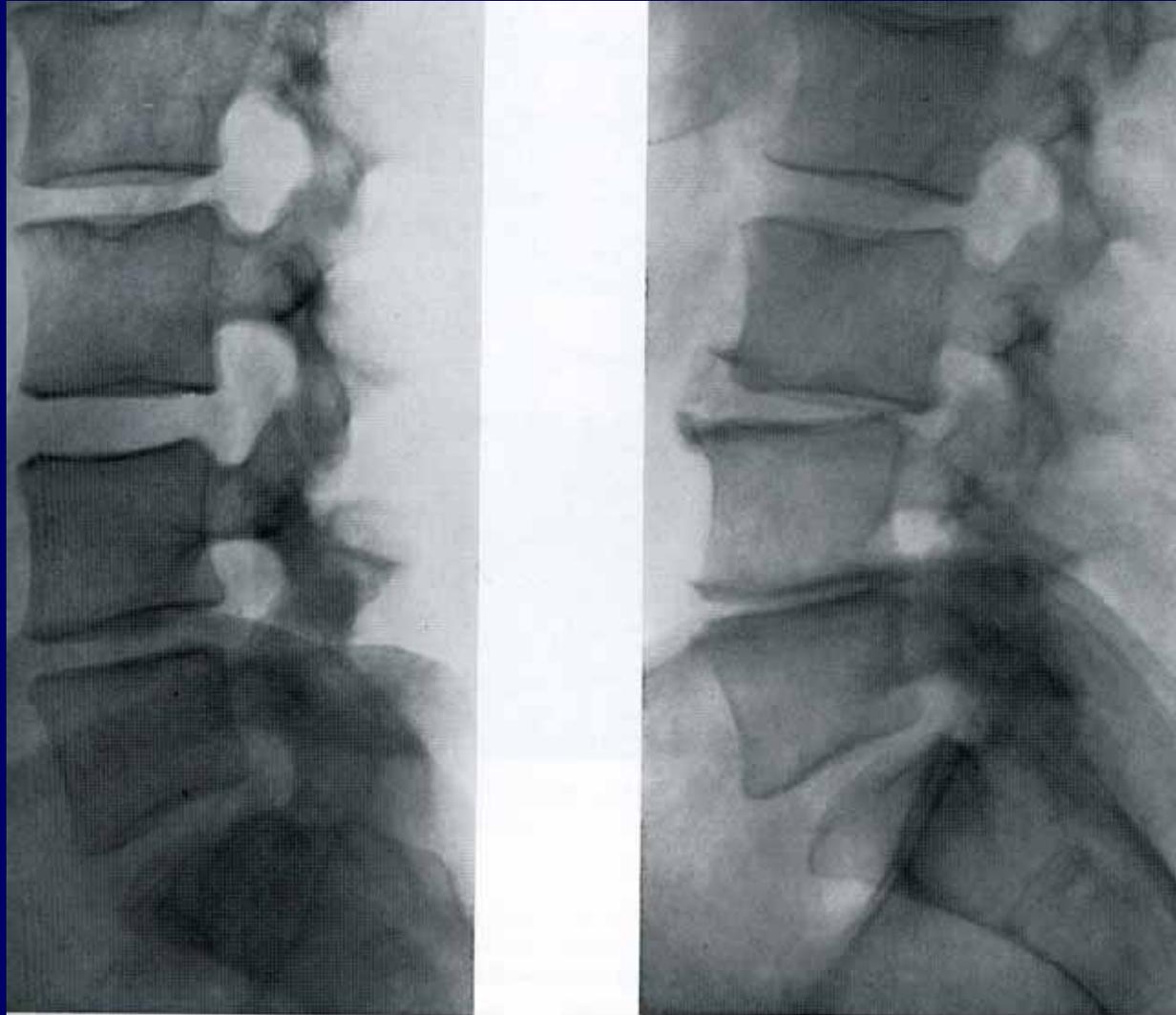


Abb. 358a

Abb. 358b

Degeneration - Osteochondrosis



**Vacuum
sign**

Abb. 363

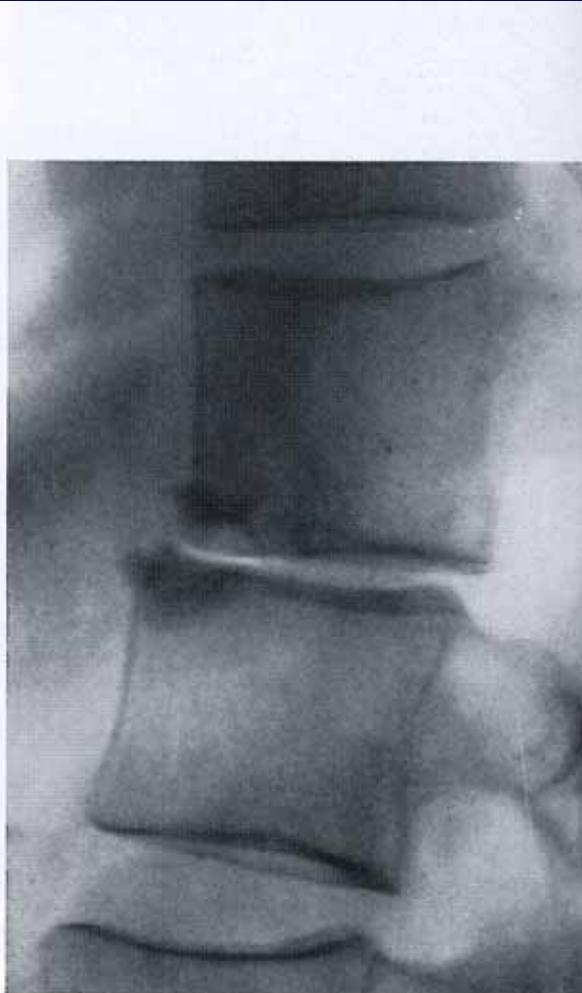


Abb. 364

Degeneration - Osteochondrosis

**Vacuum
sign**



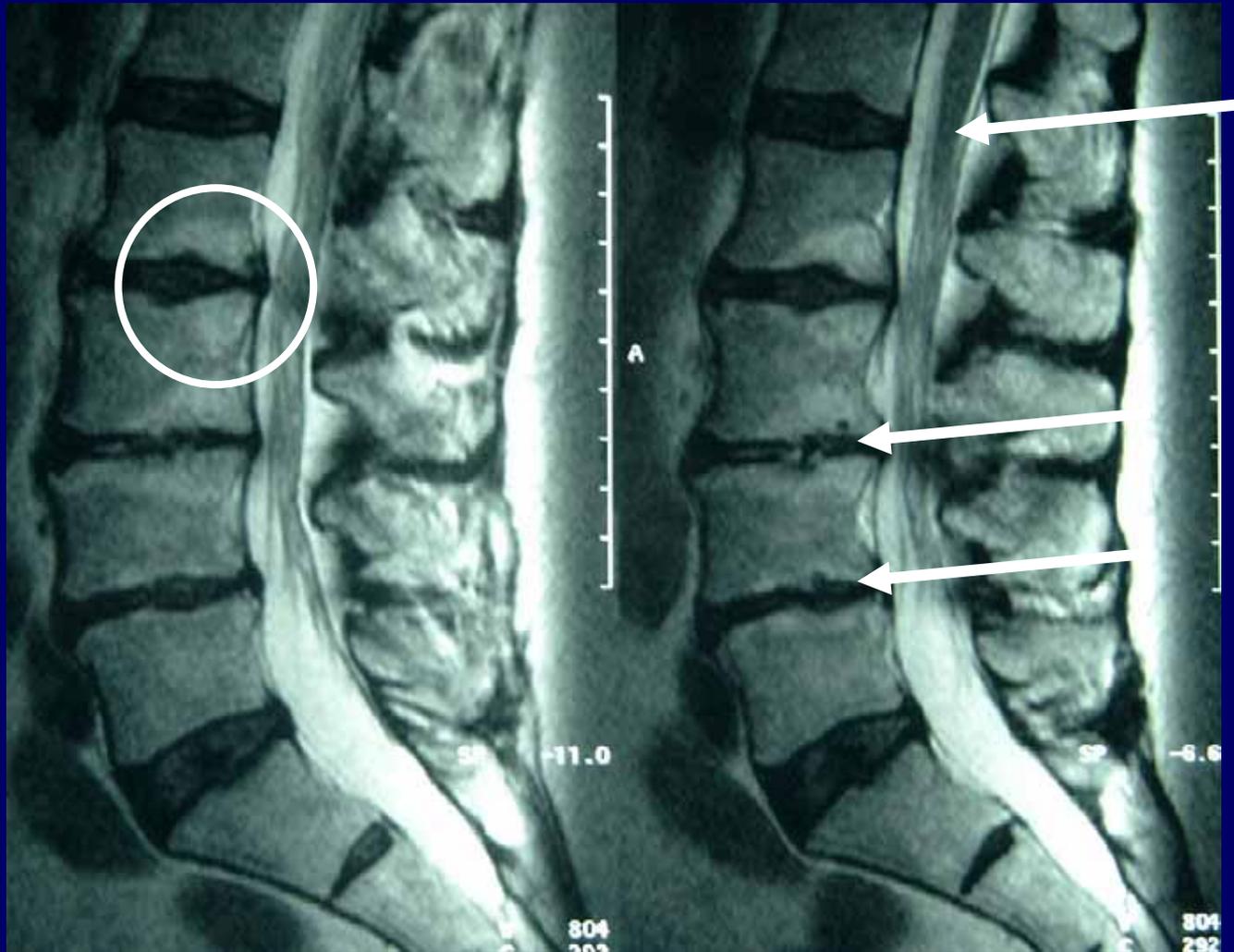
Degeneration



L5-Ileum nearthros



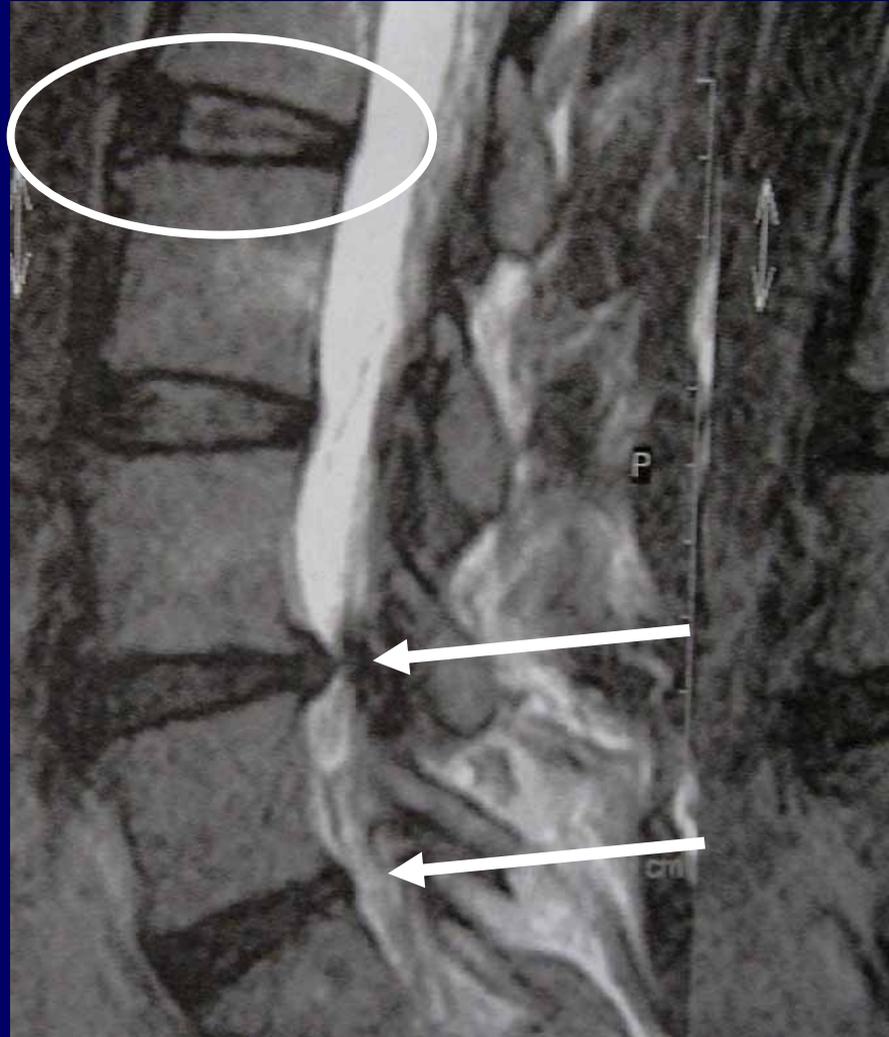
Degeneration



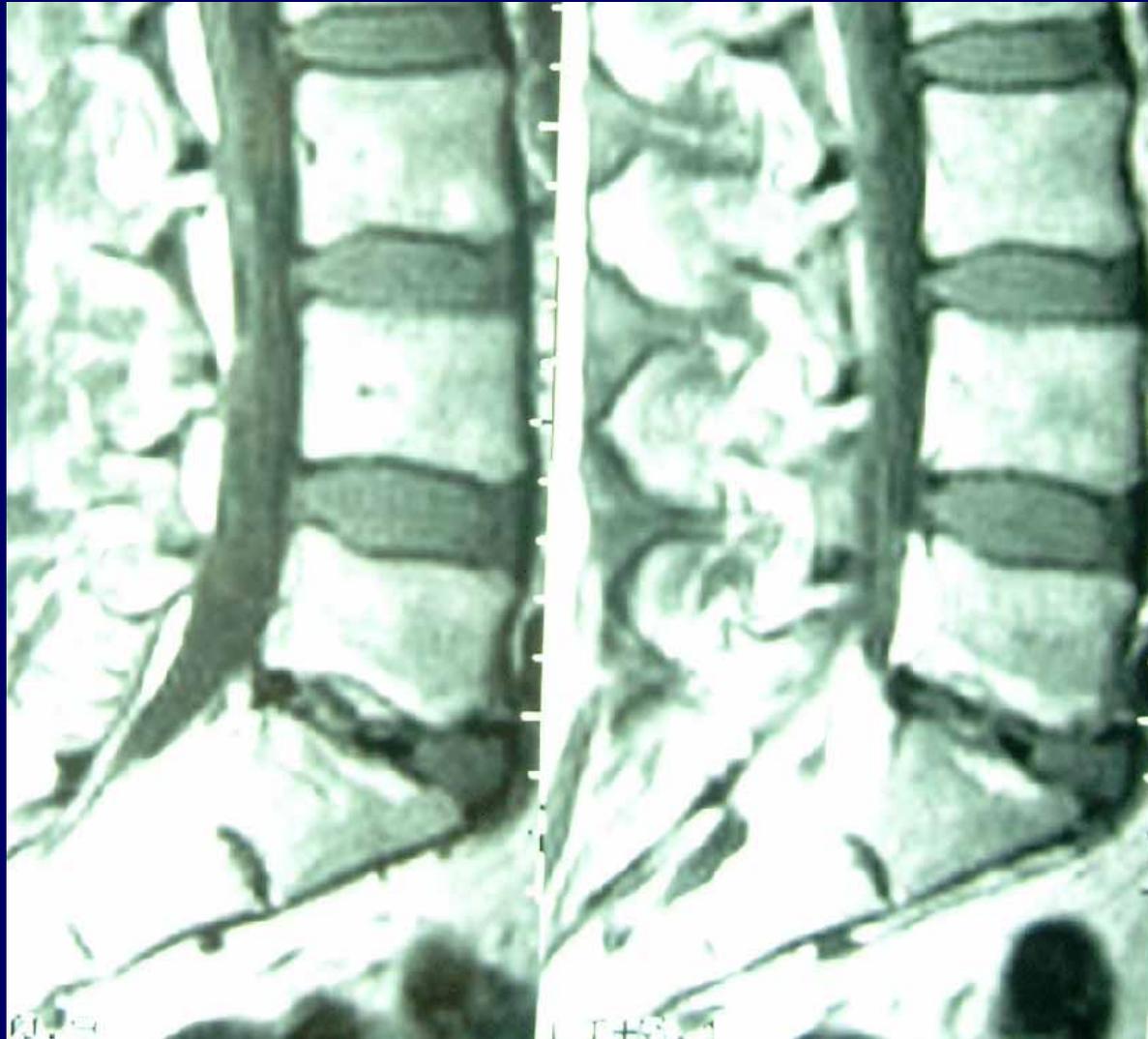
Degeneration – facett joint



Degeneration



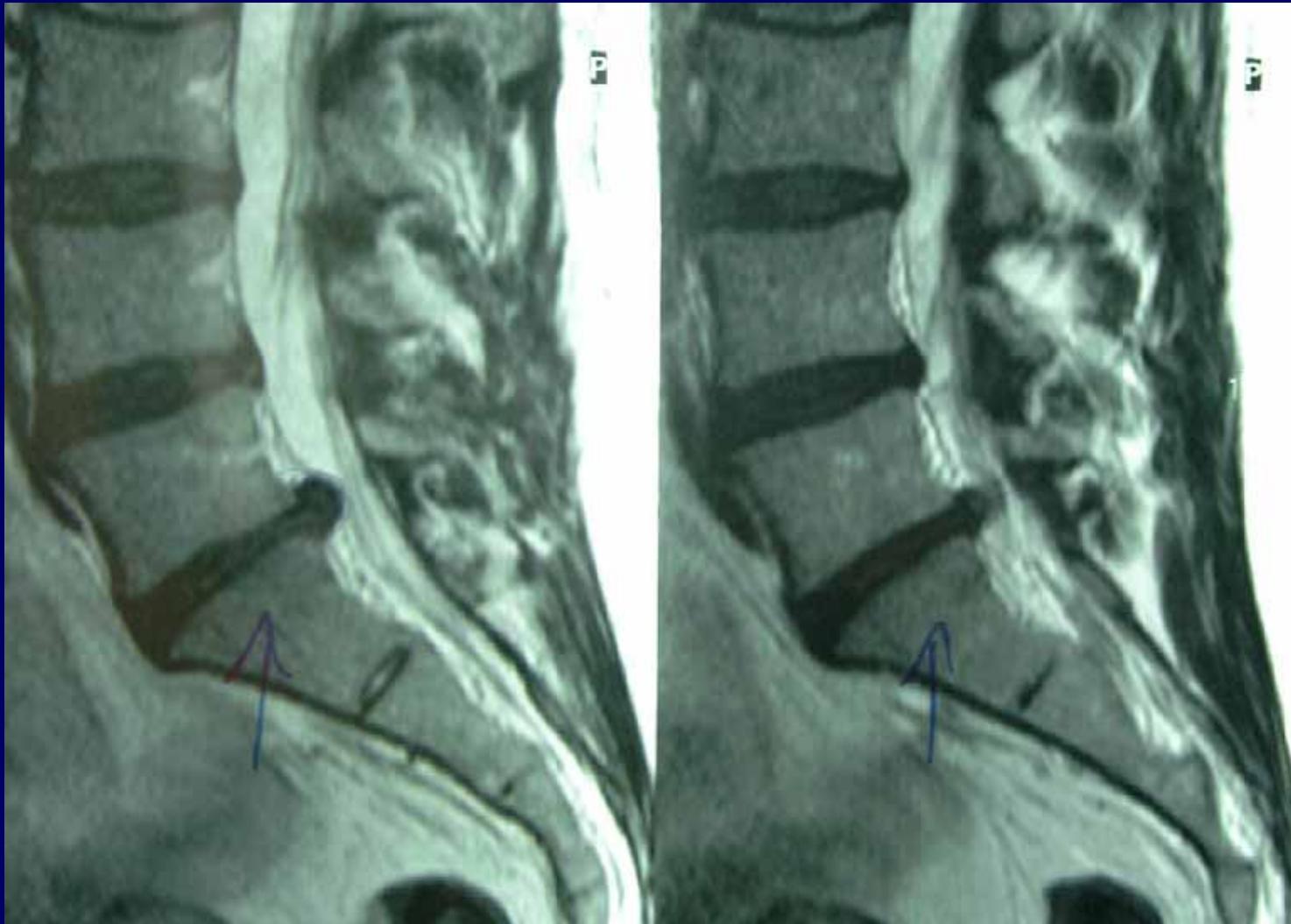
Degeneration - Disc



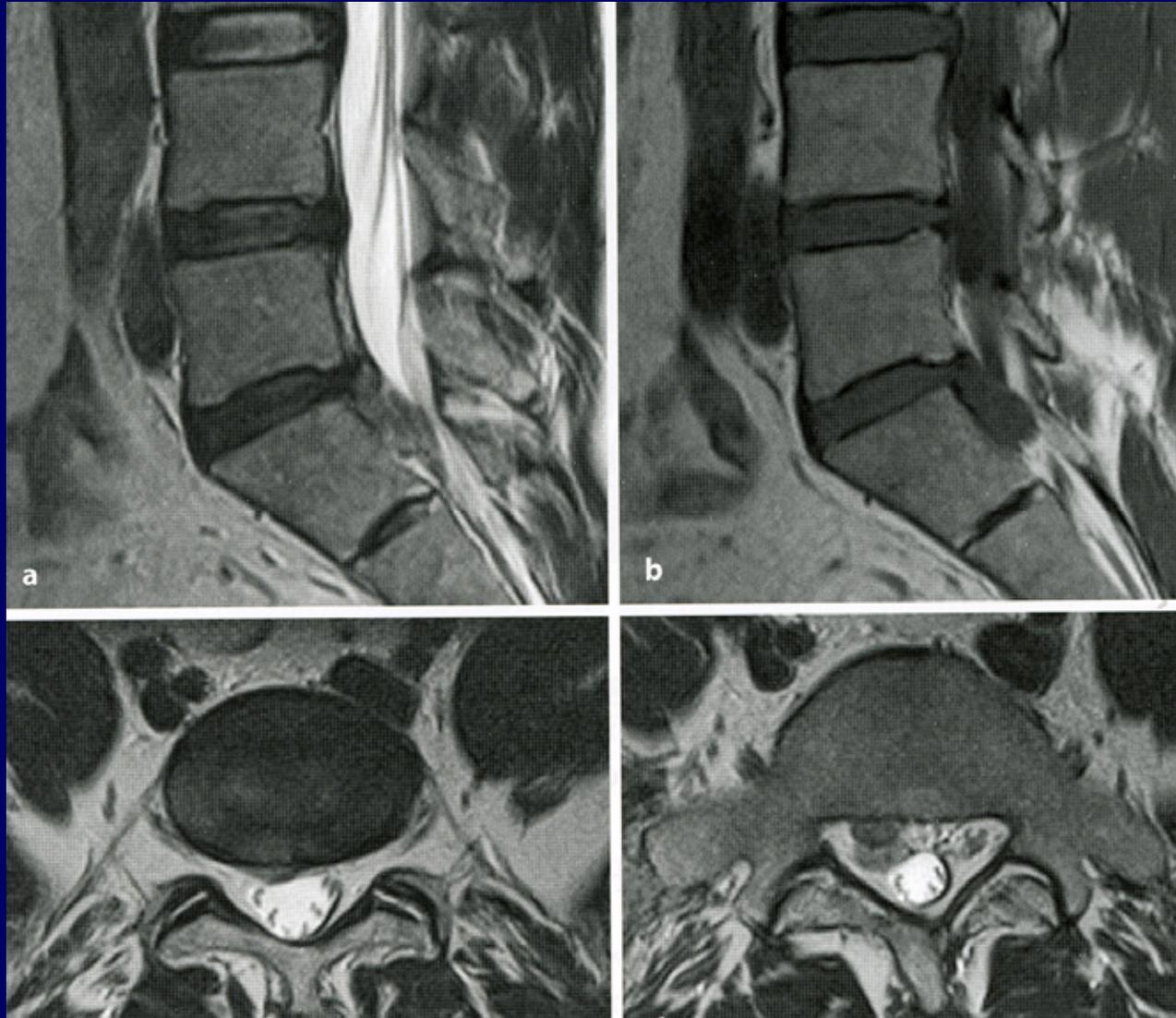
Degeneration - Osteochondrosis



Degeneration - Disc



Degeneration - Disc



Degeneration - Disc



Degeneration - Disc



Degeneration – Black disc disease



Degeneration – erosive Osteoarthrosis



Degeneration – erosive Osteochondrosis

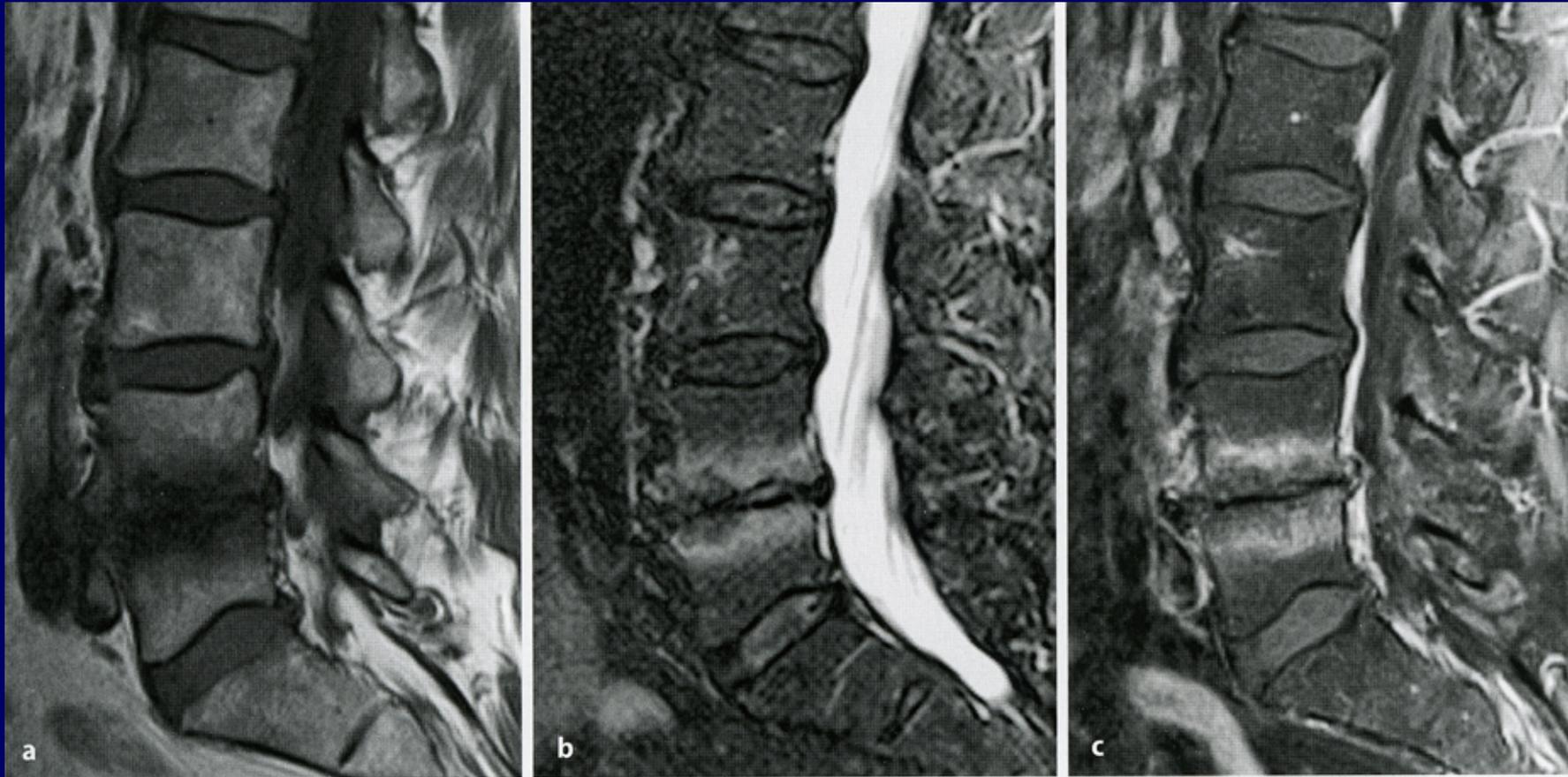


Abb. 10.202 a – c. Knochenödem und Kontrastmittelaufnahme bei erosiver Osteochondrose LWK 4/5. a T1-gewichtet, b STIR und c T1-gewichtet FS nach Kontrastmittelgabe

? Degeneration/ Infection / Tumor ?



Degeneration – Stenosis



Degeneration – Black disc disease



Bastrup phaenomenon

