

Postoperative Spine

1) Postoperative disk and spine

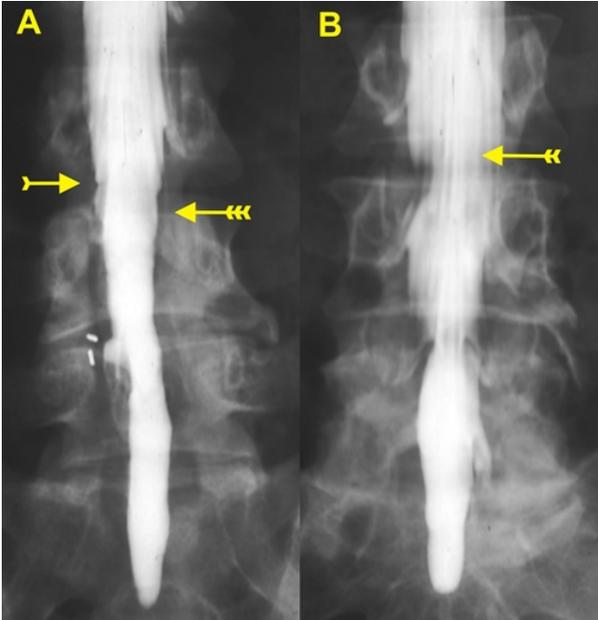
- Postoperative disk herniation and epidural scar: on MRI unenhanced images epidural scar is isointense relative to the disk on T1- weighted images and hypointense on T2- weighted images. Epidural scar unlike disk herniation does not displace but attracts the epidural fat, nerve root, epidural veins, and thecal sac. MRI contrast-enhancement is very effective for differentiating scar and disk. Postoperative disk herniations may enhance at the periphery of the fragment whereas scar tissue in the epidural space enhances homogeneously. Rarely the entire disk fragment can enhance.
- Postoperative enhancement of the vertebral body endplates is occasionally seen and must not be confused with diskitis. Postoperative enhancement of the posterior disk margin is a common postoperative finding.
- Arachnoiditis is an inflammatory process that cause cauda equina nerve rootlets to adhere to each other and to the thecal sac. The common findings are a clumping or thickening of nerve rootlets in the thecal sac, irregular borders of the thecal sac, on myelography and T2- weighted MRI images. Adherence of the nerve rootlets to the thecal sac peripherally or to root sleeves can cause a vacant thecal sac appearance or multiple defects of root sleeves on myelography. The pattern of enhancement in arachnoiditis is variable from no enhancement to pronounced enhancement of the nerve rootlets.
- Postoperative pseudomeningocele: fluid collection, usually well designed, filled with CSF, resulting from a dural tear following surgery.

Description of cases: Magnetic Resonance Imaging (MR), Computed Tomography (CT), plain films.	
1	Myelography. Arachnoiditis.
2	MR. Arachnoiditis.
3	MR. Arachnoiditis.
4	MR. Epidural scar.
5	MR. Postoperative pseudomeningocele.
6	MR. Postoperative recurrent disk herniation.
7	MR. Postoperative recurrent disk herniation.
8	MR. Postoperative septic diskitis.

2) Cases

Case 1

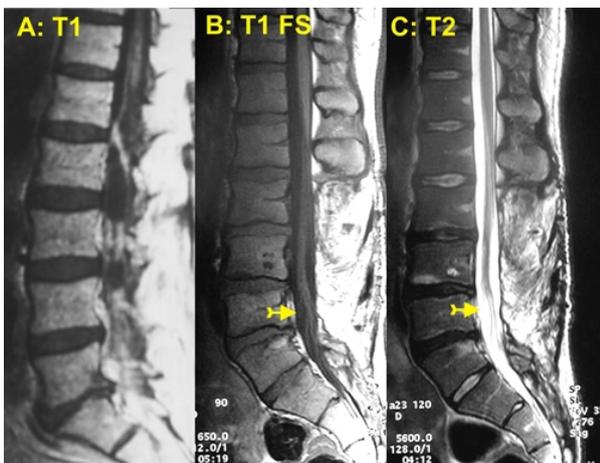
Postoperative chronic leg pain and paresthesia in both lower extremities. Arachnoiditis.



A and B: Myelography. Arachnoiditis is an inflammatory process that cause cauda equina nerve rootlets to adhere to each other and to the thecal sac. The common findings are clumping or thickening of nerve rootlets (arrow II), irregular borders of the thecal sac (arrow I). Adherence cause vacant thecal sac appearance and multiple defects of root sleeves on myelography (arrow III).

Case 2

Postoperative chronic leg pain and paresthesia in a 39-year-old man. Arachnoiditis.



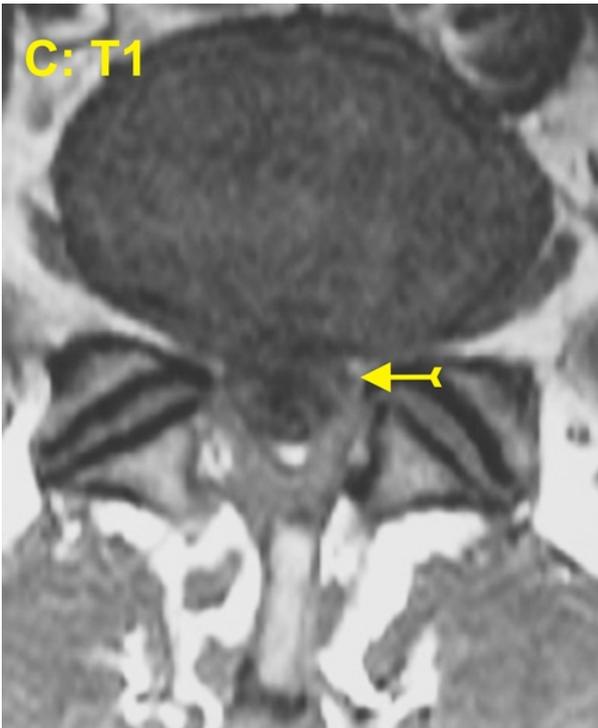
A: T1 SE wi. B: T1 SE weighted fat suppressed image. C: T2 SE wi. Arachnoiditis is an inflammatory process that cause cauda equina nerve rootlets to adhere to each other and to the thecal sac (arrow I). The common findings are clumping or thickening of nerve rootlets, irregular borders of the thecal sac.

Case 3

Postoperative leg pain and paresthesia in a 42-year-old woman. Arachnoiditis.



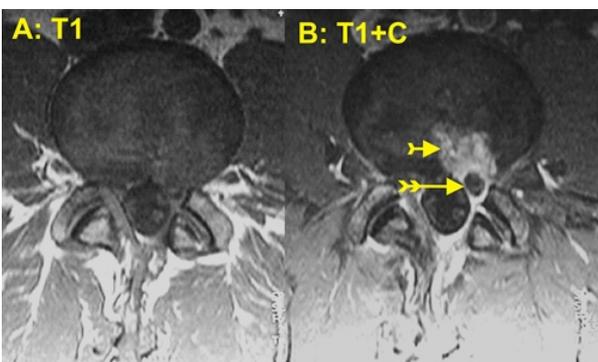
A: T1 SE wi. B: T2 wi. Nerve rootlets adherence (arrow I and II). The common findings are clumping or thickening of nerve rootlets.



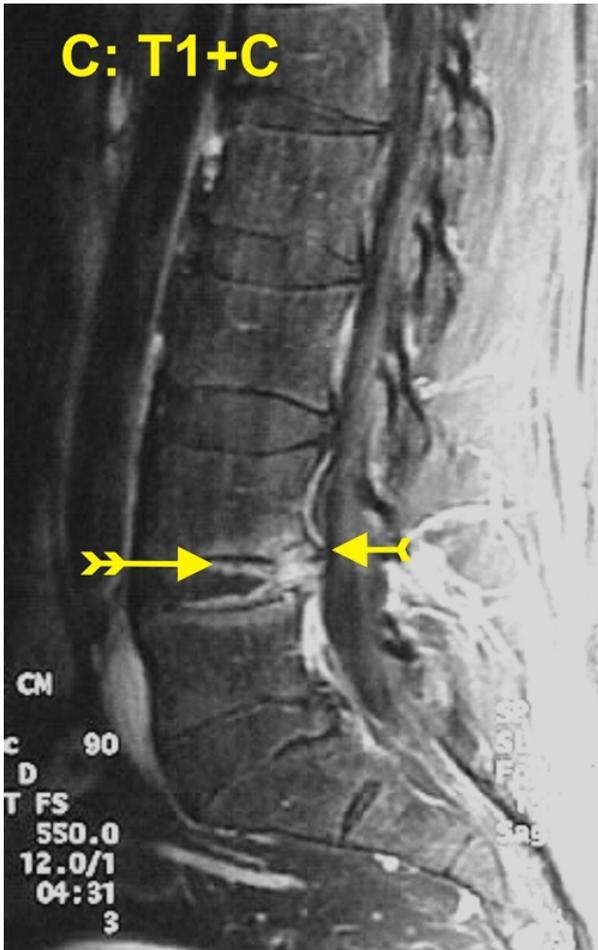
C: T1 SE wi. Nerve rootlets adherence (arrow I).

Case 4

Postoperative recurrence of low back and leg pain in a 28-year-old man. Epidural scar.



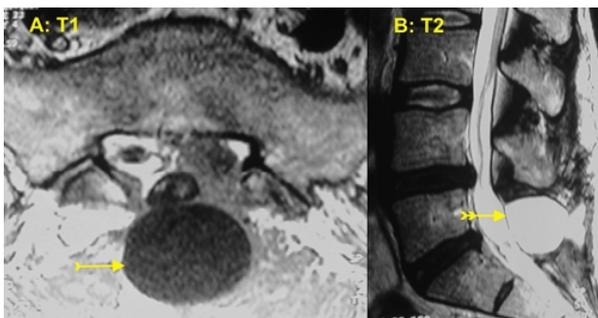
A: T1 SE wi. B: T1 SE weighted fat suppressed image after contrast medium injection. Homogeneous enhancement of postoperative scar tissue around an enlarged root sleeve (arrow II). Enhancement of the vertebral endplates is occasionally seen (arrow I).



A: T1 SE weighted fat suppressed image after contrast medium injection. Enhancement of the vertebral endplates is occasionally seen (arrow I and II).

Case 5

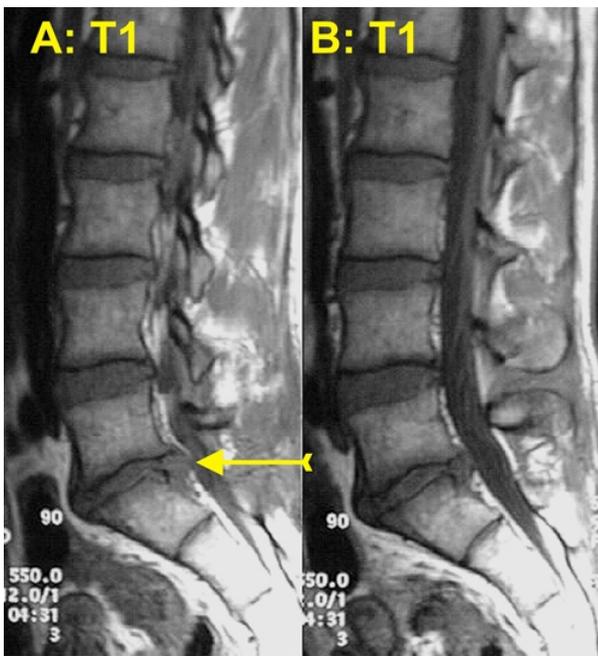
Postoperative recurrence of low back pain in a 31-year-old man. Postoperative pseudomeningocele.



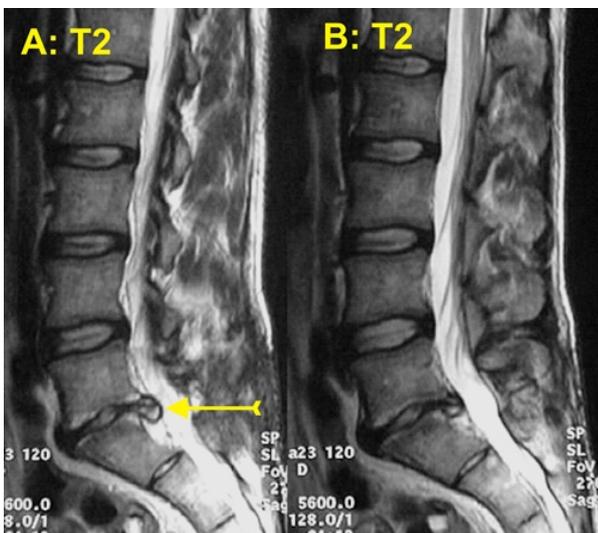
A: T1 SE wi. B: T2 SE wi. Fluid collection, usually well designed, resulting from a dural tear following surgery. Postoperative pseudomeningocele (arrows I and II).

Case 6

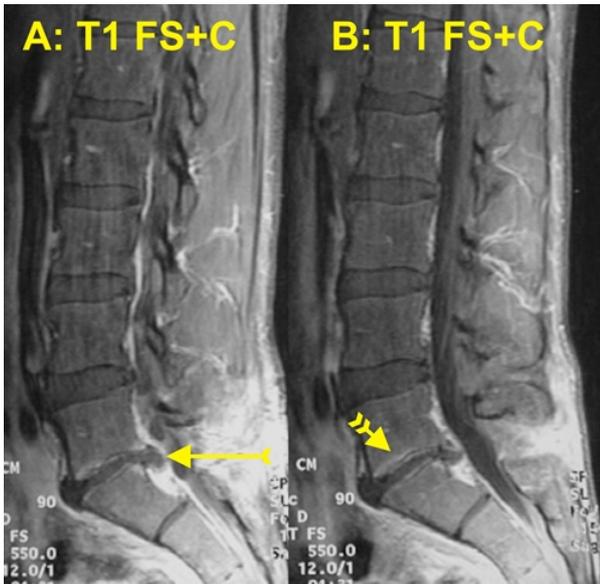
Postoperative recurrence of low back and leg pain in a 29-year-old woman. Postoperative recurrent disk herniation.



A-B: T1 SE wi. Postoperative disk herniation (arrow I).



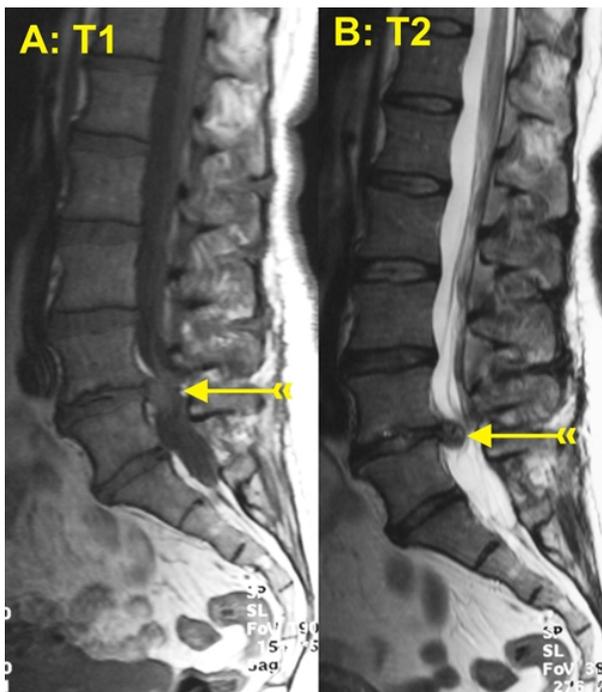
A-B: T2 SE wi. Postoperative disk herniation (arrow I).



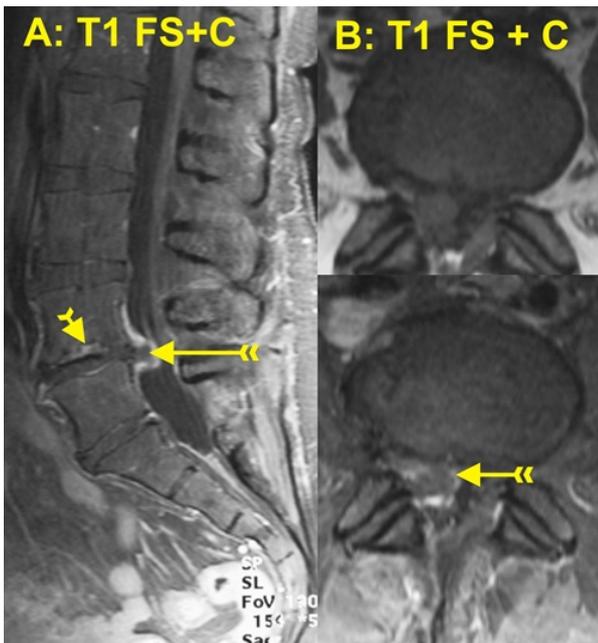
A-B: T1 SE weighted fat suppressed images after contrast medium injection. Postoperative disk herniation (arrow I). Postoperative enhancement of the vertebral endplates is occasionally seen and must not be confused with diskitis (arrow II).

Case 7

Postoperative recurrence of low back and leg pain in a 41-year-old man. Postoperative recurrent disk herniation.



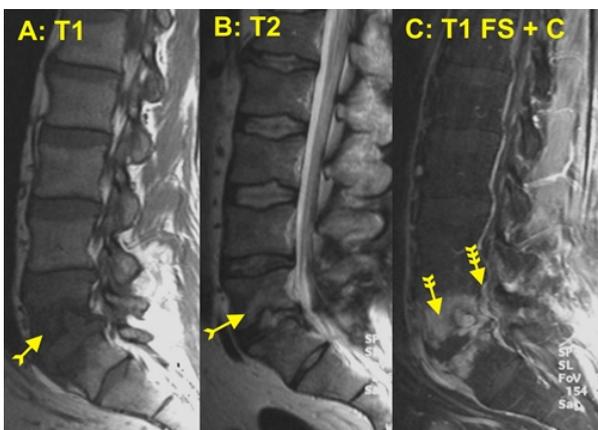
A: T1 SE wi. B: T2 SE wi. Postoperative disk herniation (A arrow I and B arrow II).



A-B: T1 SE weighted fat suppressed images after contrast medium injection. Postoperative disk herniation (arrow II). Enhancement can occur at the periphery of the fragment (arrow II). Postoperative enhancement of the vertebral endplates is occasionally seen and must not be confused with diskitis (arrow I).

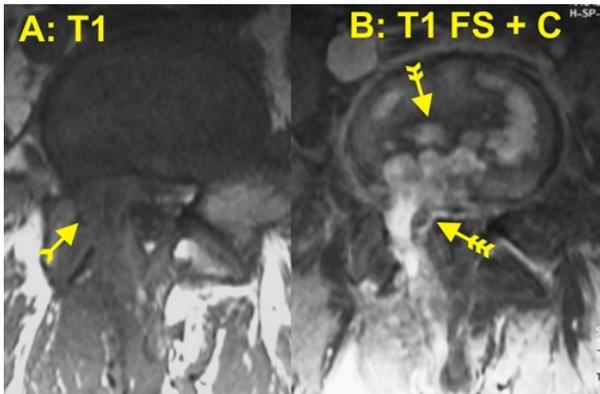
Case 8

Postoperative back pain and fever in a 31-year-old man. Postoperative septic diskitis.



A: T1 SE wi. B: T2 SE wi. C: T1 SE weighted fat suppressed image after contrast medium injection. The signal intensity within the vertebral body and endplates is hypo-intense (arrow I) on T1 weighted image, hyper-intense on T2 weighted image (arrow II). Infiltration

of perivertebral spaces (arrow III). After contrast medium injection the vertebral body enhances intensely due to osteomyelitis (arrow II).



A: T1 SE wi. B: T1 SE weighted image after contrast medium injection. Postoperative intervertebral septic diskitis. The disk itself enhances intensely (arrow III). Infiltration of epidural space (arrow I and III).