Spinal cord damage: an animal study ([i]) showed proliferation of fibrous tissue, lymphocyte infiltration and that the pial blood vessels were obliterated.

Within the adjacent spinal cord there were multiple small areas of demyelination.

Cavitation of the cord was observed in areas where there was ischaemia (lack of blood supply).

Myelomalacia (thinning of the cord) can result from arachnoiditis.

Jain, Jena and Dhammi ([ii]) in India, looked at tuberculous Myelopathy. They noted:

"The magnitude of thinning of cord did not always correlate with severity of neural deficit, however, thinning of cord in association with myelomalacia carried a bad prognosis"

and suggested,

"MRI changes in dura-subarachnoid complex suggesting arachnoiditis generally correlated with poor neural recovery."

Milhorat et al. ([iii]) included arachnoiditis as a cause of damage to spinal cord tissue, which may lead on to cavity formation within the cord.

In a study of autopsy cases, Milhorat later looked at spinal cord cavitation in syringomyelia. (See below).

Extracanalicular (parenchymal) cavities were particularly associated with myelomalacia.

Torres et al. ([iv]) reported 7 cases of spinal arachnoiditis as a complication of peridural anaesthesia.

All 7 had arachnoid cysts and 5 had cord cavitation. One case had Chiari malformation, one had tethered cord and a third had spinal cord atrophy.

The authors suggested:

"Meningeal inflammation may have left scars which later induced ischemia and subsequent cavitation.

Alternatively, CSF circulation blockade may have dilated the central spinal canal causing ischemia by compression, followed by myelomalacia and cavitation."

Similarly, Sklar et al. ([v]) looked at 8 patients with intradural abnormalities due to epidural anaesthesia. 2 of these had "Associated intramedullary cysts and myelomalacia"

A pseudomeningocele may occur, in which there is a secondary ?false' sac adhered to or behind the dura.

Pseudomeningoceles are uncommon complications of lumbar surgery developing as a consequence of incidental dural tears.

They are encapsulated cerebrospinal fluid collections, typically located in the paraspinal compartment.

Both meningocele and pseudomeningoceles are collections of spinal fluid that communicate with the CSF; however, the CSF in meningocele is surrounded (and confined) by the dura whereas the CSF of the pseudomeningocele is surrounded by paraspinous soft tissues.

Because they have no confining membrane pseudomeningoceles tend to enlarge as more and more fluid escapes from the subarachnoid space into the soft tissue pseudomeningocele and may occasionally reach the subcutaneous space.

Toohey et al. ([vi]) reported on 6 cases of post-operative pseudomeningocele, which they attributed to use of Adcon-L, an anti-adhesion agent.

In 2 cases an intra-operative dural tear was recognised and treated at the time.

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[i] Tatara N *Brain Nerve (Tokyo)* 1992; 44(12): 1115-1125 Experimental Syringomyelia in rabbits and rats after localized spinal arachnoiditis.

[ii] Jain AK, Jena A, Dhammi IK. *Neurol India* 2000 Jun; 48(2):132-9Correlation of clinical course with magnetic resonance imaging in tuberculous myelopathy.
[iii] Milhorat TH, Johnson RW, Milhorat RH, Capocelli AL Jr, Pevsner PH. *Neurosurgery* 1995

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[iv] Torres D, Bauso Toselli L, Vecchi E, Leiguarda R, Doctorovich D, Merello M, Guevara J, Nogues M. *Medicina (B Aires)* 1993;53(5):391-6[Spinal arachnoiditis as a complication of peridural anesthesia]
[v] Sklar EM, Quencer RM, Green BA, Montalvo BM, Post MJ. *Radiology* 1991 Nov; 181(2):549-54Complications of epidural anesthesia: MR appearance of abnormalities.
[vi] http://www.spinetex.com/pages/papers/pages/links/paper6.html