Traumatic Lumbar Disc Herniation
A Case Report

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KEY POINTS FROM DAN MURPHY

1) This case of serial MRI studies shows clear evidence that lumbar disc herniation can occur over a period of up to 20 months following a single traumatic injury:

A 16-year-old girl with no history of back pain, riding a motor scooter, was struck by an automobile, “striking the pavement hard on her lower back.”

She experienced immediate low back pain.

Initial exam (same day) showed no neurological signs/symptoms.

Initial x-rays (same day) were normal.

Initial MRI (same day) was normal.

Through the entire follow-up period (20 months) she engaged in no sports of other physical activities.

A very small signal change at L4-5 disc was observed with MRI at 2 months after injury.

MRI at 11 months after injury showed L4-5 disc height narrowing along with an extruded disc fragment.

MRI at 20 months after injury showed additional disc height reduction and the signal intensity had decreased further.

2) "MRI studies clearly showed the disc herniation to be progressing as a result of the trauma, leading to a diagnosis of traumatic lumbar disc herniation."

3) "Disc extrusion became clearly visible on MRI obtained 11 months after the accident. It is thought that the direct impact of an external force created a rupture of incomplete rupture of the annulus fibrosis, which represented a weak spot mechanically to release stress on the disc, leading to gradual extrusion of the nucleus pulposus.”
4) “It is necessary to carefully observe changes in other cases such as this one, in which disc degeneration progresses steadily for months after trauma, even when symptoms are minor.”

5) “If any signs of change on MRI, patients should be repeatedly observed with caution.”

COMMENTS FROM DAN MURPHY

These authors are clearly advocating repeated MRI on patients with persistent symptoms, and not to rely on the initial or early MRIs when they appear to be non-revealing.

This is a 2nd study (of 3) I found doing a search for a PI attorney (plaintiff) from Salt Lake City. The primary perspective is:

**It is often (essentially always) claimed by insurance defense attorneys and their experts that if the MRI is normal that there is no injury. This study clearly shows that is not the case because a traumatized disc can degenerate and herniate over a period of time (months, up to 20 months).**

A plaintiff attorney might use such a study to ask a defense expert something like: Doctor...

- After a disc is injured, can the immediate MRI be essentially normal?
- After a disc is injured, can an MRI taken 2 months after injury be essentially normal?
- After a disc is injured, can sequential MRIs, taken over a period of 20 months, show progressive disc degeneration and eventually herniation, even without any ensuing injury or physical stress?
- In order for an expert to give his/her best opinion, should one not first have obtained the best possible evidence?
- Because you did not have sequential MRIs in this case, you really do not have the best evidence as to whether this injury is responsible for the eventual degeneration and herniation or not, do you doctor?