

Changes in a Lumbar Disc Extrusion After Cox Technic Flexion Distraction Therapy in a 44 year old Office Worker

Submitted by

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History

Mr JD

DOB: 24.03.71

The patient is a 44 year old male who presented to the Malvern Chiropractic Clinic on April 2nd, 2015 with right-sided low back pain radiating into the posterior thigh, leg and foot, with numbness distributed over the same pattern.

The pain started three weeks prior on March 11, 2015; he was admitted to the Alfred Hospital, Melbourne, Australia, for pain management and was discharged the same day. His condition had been described as a disc bulge with sciatic radiation.

The patient described the pain intensity as a 3/10 VAS scale with a stable nature, aggravated with tennis, when getting out of his vehicle and lifting and only relieved by lying in a supine position. He reported that the pain was interfering with his normal daily routine including sleep, work and exercise.

There is a previous history of low back pain 20 years prior following a football injury, believed to be the same spinal vertebral level, with previous treatment administered by an osteopath and physiotherapist.

His last therapy prior to consultation was by a physiotherapist 3 weeks prior. The patient had consulted with a neurosurgeon who had recommended microdiscectomy at L5/S1 level.

Physical Examination (02.04.15)

Palpation:

Bilateral spinal muscle contracture from levels L3 to S1 with right leg, posterior thigh, posterior calf and foot pain.

Range of Motion:

Active and passive lumbo-sacral range of motion was diminished by up to 50% in all 3 planes of movement.

Orthopaedic examination:

Seated straight leg raise- right side positive at 60 degrees and 70 degrees on the left.

Kemps test was positive on the right side and a functional short leg was positive on the right side by up to 20mm.

Neurological examination:

L4 deep tendon reflex- right +1, left +2

L5 deep tendon reflex- right 0, left +1

Myotomes- Extensor hallucis longus (EHL) right side weakness compared with left side

Dermatomes- right side dermatomal distribution demonstrates paraesthesia and anaesthesia patterns

Imaging

Three lumbo-sacral spine MRI's were conducted on the 30th March 2015, 6 weeks later on 14th May 2015 and 5 months later on the 25th November 2015.

The initial films revealed a very large disc extrusion of L5/S1, lying posterior to the S1 nerve at disc level, compressing it anteriorly against the disc. There is a large volume of abnormal tissue following the S1 nerve down into the S1/2 lateral recess. Figure 1

INVESTIGATION RESULTS

As at 1/4/2015.

Patient Details:

Patient Name: Mr [REDACTED]
Address: [REDACTED]
Phone - Home: [REDACTED]
Phone - Work: [REDACTED]
D.O.B.: [REDACTED]
Record Number: [REDACTED]
Medicare Number: [REDACTED]
DVA Number: [REDACTED]

Allergies/Adverse Reactions: **No known allergies/adverse reactions.**

Investigation Results:

Patient : [REDACTED]
Birthdate: [REDACTED] Age: Y44 Sex: M
Your Reference :
Lab. Reference: Cabrini Medical
Medicare Number:
Referred by : DR D MANNSEGAL
Addressee : DR D MANNSEGAL 080446MB
Collected: 30/03/2015
Requested: 30/03/2015 00:00:00
Performed: 30/03/2015 00:00:00
Test name: MRI LUMBAR SPINE
Provider name: Cabrini Medical Imaging

Our Ref: 435940-1 V01 30th March 2015
northrmc@promedius.net

DELIVERY

OP

UR Number:

Examination Date: 30th March 2015

Examination Site: Cabrini Malvern Ph: 03 9508 1444

DR D MANNSEGAL
409 NORTH ROAD
SOUTH CAULFIELD 3162

Re: [REDACTED]

MRI LUMBAR SPINE

Clinical History: Absent right ankle reflux, weak right plantar flexion.

Technique: Sagittal and axial T1, T2 and fat suppressed post-contrast T1, axial proton density lumbar spine.

Findings: There is a large volume of abnormal soft tissue occupying the right side of the spinal canal, right lateral recess and extending downwards into the right S1/2 lateral recess. It is moderately hypointense on T2 and demonstrates a thin rind of peripheral enhancement, consistent with a large disc extrusion with early infiltration with vascular granulation tissue. There is a small 3mm fleck of quite marked T2 hypointensity within the process which is likely to be a tiny focus of calcification, as the process appears too chronic to be likely to have a component of haemorrhage within it. The extrusion is atypical in that it has dissected laterally and then posteriorly behind the right S1 nerve,

Patient Name: Mr [REDACTED]

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Figure 1.1

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The Valley Private Hospital
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www.miaradiology.com.au

14th May 2015

Prof Peter Teddy
Lower Ground
115 Cotham Road
Kew 3101

Patient ID: [REDACTED]
Order: 77.290107
Exam Date: 14th May 2015
Fax: 0398168564

Re: Mr [REDACTED]

LUMBAR MRI

Clinical Notes: Right sciatica L5/S1 disc.

Previous lumbar spine imaging on 30th March 2015 demonstrated large L5/S1 disc extrusion compressing the right S1 nerve.

Findings: At L5/S1 disc height is moderately reduced with a circumferential discophyte more prominent anteriorly. There is a broad based discophyte in the midline and to the right posterolaterally. This contacts the ventral margin of the thecal sac but does not contribute to a significant canal stenosis. There is a small spur extending into the right L5 foramen approaching but not definitely contacting the exiting L5 nerve root.

The disc/spur margin contacts the ventral aspect of the descending S1 nerve root as it buds from the thecal sac. There is loss of peri-neural fat and the right S1 nerve root is diffusely mildly swollen at and more so just below the disc level in the subarticular recess.

With reference to the previous report this sounds much improved.

There is no convincing left L5/S1 nerve root impingement.

The L4/5, L3/4 and L2/3 discs demonstrate minor degenerative change. At L4/5 there is a very small relatively shallow disc bulge which does not impinge upon thecal sac exiting or descending nerve roots.

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For assistance please call 1300 147 852

The most recent MRI conducted on November 25th, 2015 showed a mild broad based L5/S1 disc bulge with right postero-lateral annular fissure. There was mild contact and displacement of the right S1 nerve. Scarring and thickening around the right S1 nerve had decreased since previous imaging. Degenerative end plate change and desiccated L5/S1 disc were evident. Figure 3.

From I-Med
Dr Frank Burke
Dr Cheryl Bass

Thu 26 Nov 2015 05:33:08 PM AEDT

VICTORIA HOUSE
MEDICAL IMAGING **VH**

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Dr Andrew Rotstein

RADIOLOGY

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CT SCANNING

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25th November 2015

Dr Joel Dixon
Malvern Chiropractic Clinic
1192 Malvern Road
Malvern 3144

Patient ID: [REDACTED]
Order: 77.1701988
Exam Date: 25th November 2015
Fax: 0398210348

Re: Mr [REDACTED]

MRI LUMBAR SPINE

Clinical History: Lower back pain. L5/S1 right posterolateral disc protrusion for one year.

Technique: 3T MRI has been performed and direct comparison has been made to a previous MRIs of the lumbar spine from 14/05/2015 and 30/3/15.

Findings:

L1/2, L2/3, L3/4:
Normal.

L4/5:

Mild disc bulging. No canal or foraminal stenosis. No focal nerve impingement. Mild disc desiccation.

L5/S1:

The initially demonstrated large disc extrusion has significantly decreased in size. Mild residual disc bulging with right posterolateral annular fissure causes mild contact to the budding right S1 nerve. The right S1 nerve sheath is thickened. There is mild scar within the epidural space but this has decreased when compared with previous MRI from 14/05/2015. The L5/S1 disc is desiccated. Mild Modic type 2 endplate degenerative change.

The lower spinal cord at T11/T12 is normal.
No pars defect.

cc: Prof Peter J eddy
Lower Ground
115 Cotham Road
Kew 3101

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Figure 3

Treatment

The patient was treated with Cox Technic flexion- distraction spinal decompression therapy protocol 1 consisting of long axis/y axis distraction and protocol 2 including circumduction motions (5x4 decompression sets), both focusing on the right sided discal compartment. Soft tissue therapy and a prescription of core stabilizing exercise and stretching routine were also administered.

The initial course of care was twice weekly for 5 weeks, once weekly for a following 4 weeks and once fortnightly between April 2015 and January 2016, with 40 treatments in total, maintaining an 80- 100% reduction in pain.

Cox flexion distraction, disc decompression therapy has been demonstrated to both diminish the size and pain impact of the discal pathology and its further impact on the compromised DRG.

Prognosis

Patient progress has been excellent and he is expected to return to all normal ADL's including non ballistic recreational activity.

It was explained to him that long term success was a result of a balance between an active and passive mobility programme and hence he has been given appropriate stretching and core strengthening routines .

We have also assessed and modified workplace and domestic ergonomics.

I am confident that self management along with supportive Cox Decompression therapy will maintain this patient's low back condition well and help him get on with pain free ADL's.

Conclusion

The appropriate application of Cox flexion-distraction therapy protocols in this case has:

1. Significantly reduced both signs and symptoms associated with discal compartment pathology and the associated Dorsal root ganglion compression consequences.
2. Resulted in the MRI changes demonstrated over three separate images over a period of some 7 months.
3. Significantly reduced intradiscal pressures at L5-S1 level and a tightening of the posterior longitudinal ligament (Gudavalli et al 1998) may explain the reduction in discal mass extrusion postero laterally into spinal recesses at this level.

References

- 1- Cox JM: Low Back Pain: Mechanism, Diagnosis, Treatment, 6th edition, Baltimore; Lippincott Williams &Wilkins, 1990, Chapter 8, Appendix B.
- 2- Gudavalli MR: Estimation of dimensional changes in the lumbar intervertebral foramen of lumbar spine during flexion distraction procedure. Proceedings of the 1994 International Conference on Spinal Manipulation, June 10-11, 1994, Palm Springs, CA, pp 81.
- 3-Gudavalli MR, Cox JM, Baker JA, Cramer GD, Patwardhan AG: Intervertebral Disc Pressure Changes During a Chiropractic Procedure. Proceedings of Bioengineering Conference, Phoenix, 1997
- 4-Gudavalli MR, Cox JM, Baker JA, Cramer GD, Patwardhan AG: Intervertebral Disc Pressure Changes During The Flexion-Distracton Procedure for Low Back Pain, Proceedings of the International Society for the Study of the Lumbar Spine, Singapore 1997