

Low Back Pain with Radiculopathy in a Patient due to Herniated Disc and Associated Cerebellar Ataxia

Rachna Varma¹, Minal Chandra², Sudheer Dara³

¹Chief Consultant Pain Physician, Medical Director, Epione Centre of Pain Relief and beyond Varma Union Hospital, Indore, Madhya Pradesh 452002, India. ²Consultant Pain Physician, Epione Centre of pain Relief and Beyond Jubilee Hills, Hyderabad, Hyderabad, Telangana 500033, India. ³Chief and Director of Pain Medicine, Continental Hospitals, Hyderabad, Telangana 500035, India.

Abstract

Low back pain with radiating pain, tingling or numbness in lower limbs is most commonly due to prolapsed and herniated intervertebral disc. The pain is neuropathic and usually increases with walking. We report a patient with severe back pain with radiculopathy of one month duration in a patient with cerebellar ataxia for 30 years with increasing unsteadiness of gait for last 30 years.

Keywords: low Back pain; radiculopathy; prolapsed intervertebral disc; cerebellar ataxia.

How to cite this article:

Rachna Varma, Minal Chandra, Sudheer Dara. Low Back Pain with Radiculopathy in a Patient due to Herniated Disc and Associated Cerebellar Ataxia. Indian J Anesth Analg. 2019;6(1):359-361.

Introduction

Low Back pain with radiculopathy is commonly caused by a prolapsed or herniated intervertebral disc (PIVD) The presence and location of pain, paraesthesia and other symptoms depend on the site and degree of prolapse. The common intervertebral disc (IVD) involved are the L4-5 and L5-S1 as they are in line of weight bearing axis. PIVD is herniated nucleus pulposus where it is displaced beyond the edges of vertebral ring apophyses. Patient presents with low back pain with radiculopathy, motor or sensory deficits according to the level of compression of the nerve root. Motor deficit if present is considered to be a red flag and is an indication for surgical intervention. Cerebellar ataxia can occur as a result of damage

to cerebellum and can occur due to many diseases in cerebellum. The patients present with symptoms of unsteadiness of gait, inability to coordinate balance, speaking disability and eye movements. We present a case report of a patient with back pain with radiculopathy for 2 months with cerebellar ataxia because of Arnold Chiari Malformation for which she was operated in 1997 but had gradual increase in unsteadiness of gait and balance. She walks with the support of walker.

Case report

A 58 years old female patient presented with low back pain radiating to both lower limbs more in right lower limb till foot and till knee joint in

Corresponding Author: Rachna Varma, Chief Consultant Pain Physician, Medical Director, Epione Centre of Pain Relief and beyond Varma Union Hospital, Indore, Madhya Pradesh 452002, India.

E-mail: varuny.indore09@gmail.com

Received on 29.11.2018, **Accepted on** 10.12.2018



This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0.

left lower limb of 1 month duration. The pain increased on walking and decreased on resting. She was a case of cerebellar ataxia because of Arnold Chiari Malformation for which she was surgically treated in 1997 and since then she had problems in balancing and gait difficulty and slurring of speech. She walked with a support of walker. On examination she appeared to be in extreme agony and restless. Straight leg raising test (Lasegue's test) was positive at 90 degrees, Fabers or Patrick test was positive on right side. Tenderness present in midline lumbar spine and right posterior superior iliac spine. There was no motor deficit. Decreased sensation to touch was present in lower lumbar dermatomes. Muscle Tone and deep tendon reflexes were normal. Cerebellar signs like finger nose test, knee heel test were positive. Nystagmus was present. Cranial nerve examinations were normal. She had no involuntary movements or tremors. Her visual analogue score VAS was 8/10 She was advised MRI lumbar spine. MRI showed L4-L5 intervertebral disc herniation with large bulging component towards left along with ligamentum flavum hypertrophy and facet hypertrophy causing bilateral neural foraminal stenosis. Mild degenerative spondylotic changes are present in multiple lumbar level. Patient had been advised endoscopic discectomy but had refused. The patient and attendants were counselled and explained the prognosis of surgical and non surgical interventions. An explained informed consent was taken. Patient was shifted to OT. With all resuscitative measures and monitors in place. An 18 G intravenous catheter was inserted. Patient was put in prone position and the back was cleaned and draped and a C -Arm was put in position. AL4 right and left nerve root block by transforaminal approach and a L5 -S1 interlaminar epidural block with triamcinolone 40 mg and 0.25% of bupivacaine was done under local anaesthesia and fluoroscopy. The patient was stable throughout the procedure and post procedure. Her pain scores decreased and post procedure VAS was 0/10. She was observed for 2 hours and sent home with analgesics, antineuropathics and was advised physiotherapy. She was followed up after 5 days and then at monthly intervals. She was found to be pain free and comfortable and no worsening of neurological symptoms were found at subsequent follow up.

Discussion

PIVD is the most common cause of pain and radiculopathy. The presence of pain and other symptoms depend on the site and degree of prolapse.

PIVD is most common at L4-5 and L5-S1. Most patient recover within few weeks but in some patient the symptoms progress leading to complications like paraesthesia, numbness, weakness of limbs, cauda equina syndrome, bladder and bowel problems. A disc prolapse involves the displacement of nuclear material. In the lumbar spine it is most common between ages of 30 to 50 years. Both mechanical and biochemical degenerative changes are involved in mechanics of disc prolapse. It is important to understand the natural history of prolapsed disc, including history of trauma. Medical history should be taken to rule out infection, malignancy or other systemic illness like Diabetes. Proper physical examinations should be done. Specific provocative tests for PIVD with radiculopathy are Straight leg raising test (SLR, Lasegue's test), Well- leg raising test (cross-over Lasegue's test), Slump test, Prone knee bend test (for L3 and L4 root). Palpation should be done to look for tenderness on spine, paraspinal muscles and sacroiliac joints.

Identification of red flags like motor deficit, bladder or bowel involvement, meningeal involvement are of utmost importance in treatment of patients. In patients with rapidly progressing motor weakness surgery should be choice of treatment. Proper selection of patient for conservative treatment is important and should be first choice in patients with pain with radicular pain. Diagnosis of PIVD is done by MRI. Saggital and axial view can show the degree and site of prolapse. The differential diagnosis for back pain with or without radiculopathy is SI joint pain, facetal pain, Piriformis syndrome, myofacial pain.

Chiari Malformation types (1-4) is a spectrum of developmental anomaly of hind brain. It affects the structural relationship between the cerebellum, brain stem, the upper cervical cord and the bony cranial base. Arnold Chiari Malformation is type 2 variety. There is anomaly of herniation of cerebellar tonsils through foramen magnum producing compression of cervicomedullary junction. It presents with signs and symptoms of cerebellar dysfunction like ataxia, dysarthria, dysphagia, nystagmus and dissociative sensory loss. Natural history of patient remains unclear where in they remain stable or may deteriorate over years. This patient was operated in 1997 where in she underwent foramen magnum decompression and Duraplasty. She had gradual increase in unsteadiness of gait and balance so that she required a walking support. After thorough neurological examinations and identification of the current pathological conditions plan was made to give bilateral L4 transforaminal injection under day care.

Conclusion

Low back pain is a very common condition and a patient presenting with low back pain with radiculopathy should be assessed thoroughly with proper history taking, local and general examinations, neurological examinations, imaging, identification of red flags and then appropriate decision for surgical or non surgical intervention should be taken. Any preexisting neurological conditions make it complex and should be very carefully approached to prevent complications and reach a proper diagnosis.

Financial support and sponsorship: Nil

Conflicts of interest: There are no conflicts of interest.

References

1. Bogduk. The anatomical basis for spinal pain syndromes. J Manipulative Physiology therapy. 1995;18:603-05.
2. Bogduk N. Nerves of lumbar spine. In clinical anatomy of the lumbar spine and sacrum. Churchill Livingstone; New York. 1997.pp.127-44.
3. Bogduk N. Low back pain Churchill Livingstone 1997.pp.187-213.
4. Derby R, Kine G, Saal JA et al. Response to steroid and duration of radicular pain as predictors of surgical outcome. Spine. 1992;17 Suppl;176-83.
5. Balaji VR, Chin KF, Tucker S, Wilson LF, Casey AT. Recovery of severe motor deficit secondary to herniated disc prolapse. Is surgical intervention important? a systemic review. Eur Spine J. 2014 Sep;23(9):1968-77.
6. Humphreys SC, Eck JC. Clinical evaluation and treatment options for herniated Lumbar disc. Am Fam Physician. 1999 Feb 1;59(3):575-82, 587-8.
7. Kanal S Paul. Arnold Chiari Malformation -Review of 71 cases. J neurosurgery. 1983;58:183-87.
8. Mohr PD, Strang FA, Sambrook MA et al. The clinical and surgical seizures in 40 patients with primary Cerebellar Ectopia QJ Med. 1997;46;85-96.