



Spinal Myoclonus After Transforaminal Epidural Injection



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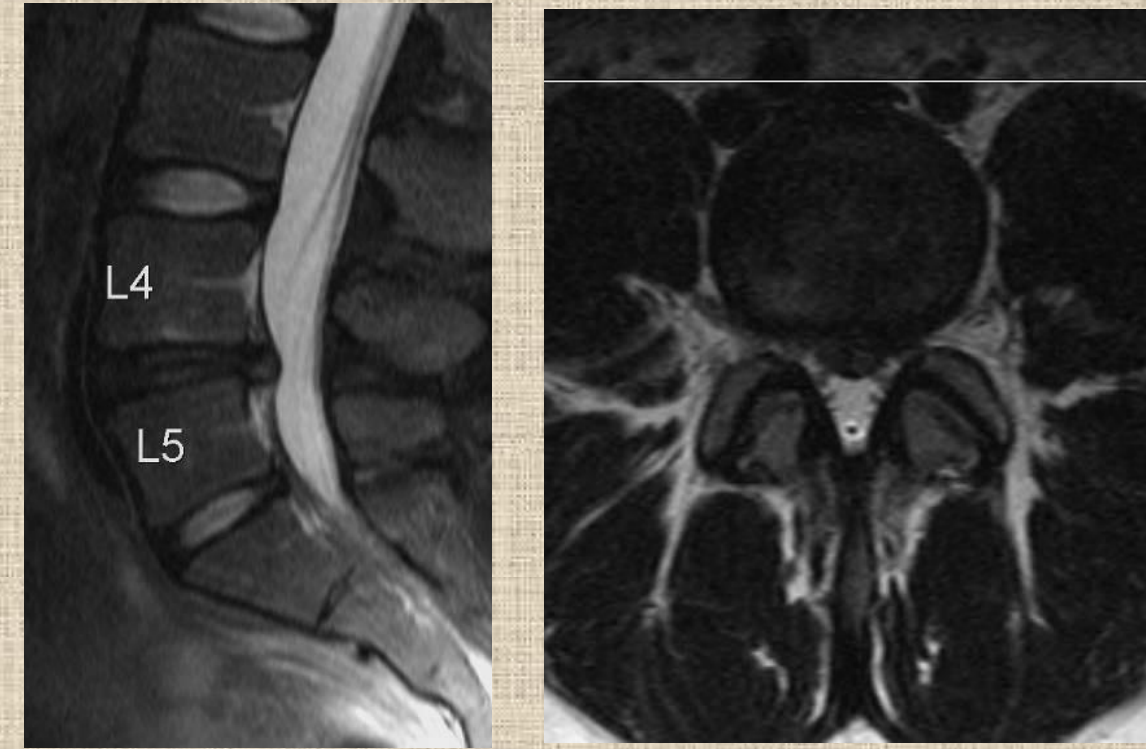
CASE PRESENTATION

Presenting Complaints

- 42-yr-old female presented with backache
- L₄-L₅ and L₅-S₁ prolapsed intervertebral disc with radiculopathy
- Lt >> Rt, SLR- Lt 30° Rt-normal

Treatment History

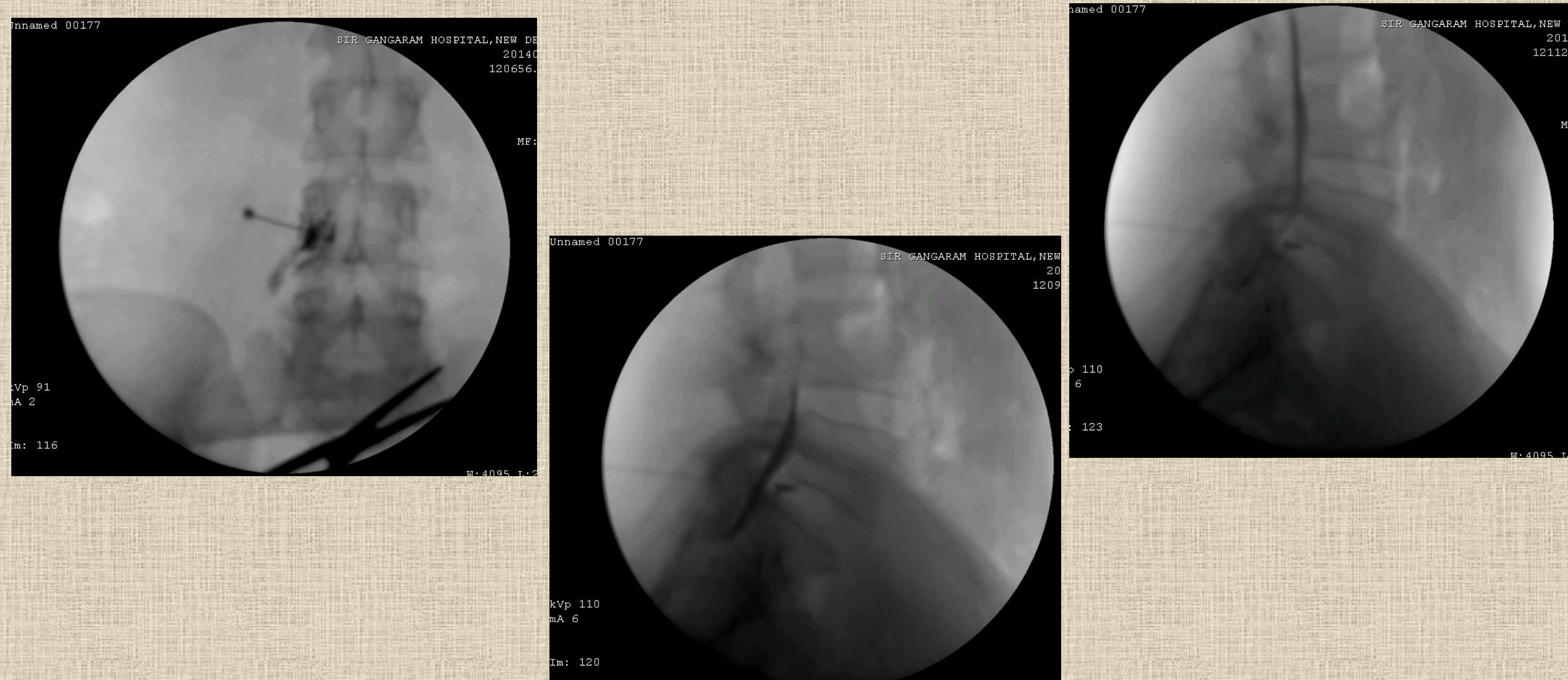
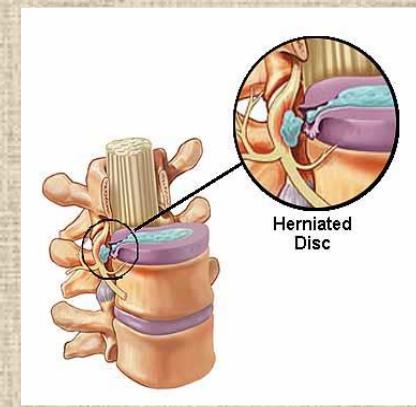
- Analgesics
- Muscle relaxants
- Serotonin re-uptake inhibitors
- Physiotherapy exercises



MATERIAL AND METHOD

Procedure Planned : Transforaminal Epidural Steroid Injection (TFESI)

- Under asepsis left TFESI was given at L₄-L₅ uneventfully
- During Lt L₅-S₁ TFESI, Transforaminal access was difficult
- During the procedure, intrathecal spread of dye [1ml diluted with 1 ml saline (urografin® 76%)] was noted
- L₅-S₁ TFESI procedure was aborted and L₅-S₁ epidural block was given with 8 ml drug solution (40mg Triamcinolone + 4 mg Dexamethasone + 0.125% Bupivacaine)



RESULTS

- Patient was comfortable for 4 hrs postoperatively with motor weakness of left leg
- Suddenly, involuntary jerking of lower half of the body (Spinal Myoclonus) was noticed at interval of almost every 30 sec.
- On examination, general survey was unremarkable, vitals were within normal limits
- Higher mental functions and cranial nerve examination were within normal limits
- The jerky movements were severe in nature rhythmic, electric shock like affecting all muscle groups of lower abdomen and both lower limbs
- At times involuntary jerks were vigorous enough to propel the patient from her bed
- Tone was normal in both upper limbs and increased in lower limbs
- Muscle power was decreased in lower limbs (4/5)
- Deep tendon reflexes were normal in upper limbs and increased in lower limbs with bilateral extensor plantar response
- Examination of sensory, and cerebellar system did not reveal any abnormalities
- Urinary incontinence was present

TREATMENT

- Tab Clonazepam 0.5mg sublingual stat and SOS
- Inj. Methyl prednisolone 1g slow IV stat followed by 125mg 8 hourly
- Sodium valproate 400 mg IV slow
- Tab Propranolol 10 mg 8 hourly
- Tab Torperisone 50 mg 8 hourly
- Patients improved clinically after treatment, severity and frequency of myoclonus jerks decreased significantly
- MRI (LS spine) was done – normal,
- Other biochemical parameters – normal
- Patient discharged on 2nd post injection day in satisfactory condition without neurological deficit
- Patient was followed for after 2 weeks and 6weeks without any sequelae

DISCUSSION

Differential Diagnosis

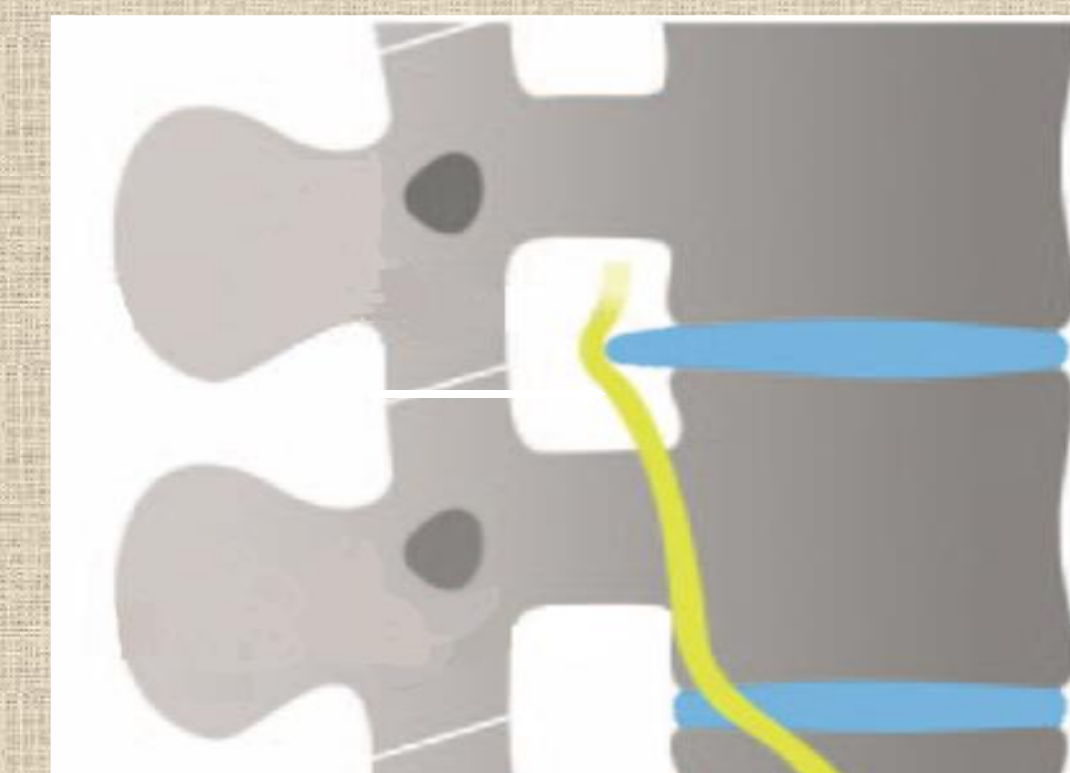
- Nerve injury
- Spinal cord injury - Spinal myoclonus
- Aseptic meningitis
- Chemical meningitis
- Myoclonus is best defined as sudden, brief, shock like involuntary movement due to contraction of a group of muscle fibers, triggered by an event within the central nervous system.
- Spinal segmental myoclonus, Friedreich in 1881- myoclonus could originate in the spinal cord.
- In 1919 Lhermitte established myoclonus of spinal origin as a clinical entity, Traumatic transection of the spinal cord complicated by myoclonus below the level of the lesion
- Prevalence : 8.6 cases in 1,00,000 per year

Causes

- AV malformation
- Intradural tumor
- Cyst or spondylosis
- Trauma
- Multiple sclerosis
- Amyotrophic lateral sclerosis
- Viral infection
- Late delayed sequelae of spinal cord irradiation
- Drugs and dyes - spinal anaesthesia, other procedures
- Psychological
- Epileptic

Classification

- Distribution
 - Focal
 - Multifocal
 - Generalized
- Precipitating factors
 - Spontaneous
 - Reflex



Mechanisms

- Loss of inhibitory function of local dorsal horn interneuron
- Abnormal hyper-reactivity of local anterior horn cell
- Aberrant local axons re-excitation
- Loss of inhibition from supra-segmental descending pathways
- Spinal interneuronitis – viral

Radiocontrast Agents

Ionic

- Diatrizoate
 - Metrizoate
 - Ioxaglate
- (Higher osmolality, chances of anaphylaxis & adverse reactions are much higher)

Nonionic

- Iopamidol
 - Iohexol
 - Ioxilan
 - Iopromide
 - Iodixanol
- (Lower osmolality, chances of anaphylaxis and adverse reactions are much lower) – Safe

Case Report

Involuntary Jerking of Lower Half of the Body (Spinal Myoclonus)

BK Ray*, G Guha*, AK Misra**, SK Das***

Abstract
A 55 years old, hypertensive, diabetic lady presented with sudden onset jerky movement of lower trunk and legs. It was present both in awake and sleep and got aggravated by mental stress as well as sensory stimulation. Examination revealed rhythmic jerks affecting muscles of lower abdomen and legs. The lower limbs had normal muscle bulk and power, increased tone, exaggerated deep tendon reflexes, bilateral flexor plantar response with normal sensory autonomic and cerebellar function. Investigations including CSF study, MRI of dorsal spine and NCV were normal. A combination therapy with tizanidine, baclofen and clonazepam induced gradual improvement within 6 weeks. ©

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CONCLUSION

- Intense utmost care with intervention blocks
- Use of safer radiocontrast agents
- Careful post block observation & follow-up