



INSTRUCTIONAL LECTURES & PANEL PRESENTATIONS

LUMBAR DISC HERNIATION

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Lumbar discectomy is one of the most successful operations in a carefully selected patient with radiculopathy pain. But, in an inappropriate patient, the result is disappointing.

Life time prevalence of low back pain in the population is eighty percent and 4 percent of these cases become chronic.

Problems:

- Ninety percent of the attacks of low back pain resolves within two months. But rate of recurrence is about seventy percent.
- Rate of false positive findings in imaging studies such as CT and MRI high.
- Is disc herniation the main cause of back or even leg pain in every patient?
- Which patients will benefit from the surgery?
- When must surgery be performed?

Risk factors:

- Vibration
- Hard labor
- Excessive temperature changes
- Heavy weight lifting
- Monotonous activities or job
- Disturbing positions

Males aged 35-45 are usually affected.

L4-L5 and L5-S1 are the levels most commonly involved.

Types of herniations:

- Protrusion
- Extrusion
- Sequestration

Localisation:

- Posterolateral
- Axillar
- Foraminal
- Central
- Intradural

Characteristics of root pain

- a) Radiation of pain is specific for a certain nerve root
- b) Pain is more severe at the peripheric sites of the extremity
- c) Numbness and paresthesia is present at the distal regions
- d) Decreased nerve conduction velocity and fibrillations are noted in EMG
- e) Neurologic deficit may be present varying with the nerve root affected
- f) Nerve tensioning tests are positive

Characteristics of reflecting pain

- a) Pain reflects usually to the proximal site of the extremity. It is rarely reflected to below knee level
- b) Pain is more severe at the proximal regions
- c) Numbness and paresthesia is not present
- d) EMG is normal
- e) Neurologic findings are not observed

Natural history

- Surgically treated group is better at postoperative one year.
- No difference exists between the groups at postoperative four years

Conservative management

NSAID and bed rest for two to three days is advised. If there is no response, epidural injection of steroids should be considered.

Indications of surgical treatment

- Progressive neurologic deficit
- Intractable pain resistant to conservative measures for six weeks

Preoperative evaluation

- Neurologic deficit
- Tensioning tests
 - Leg raising test
 - Femoral tensioning test
- Psychologic tests
 - Pain charts
 - VAS
 - MMPI

Non organic findings

- Excessive irritability with light touch at non-anatomic sites.
- Pain with axial loading and pelvic rotation
- Nonanatomic motor and sensory findings
- Exaggerated reactions during physical examination and pain,
- Positive Laseque test while the patient lying turns to negative at sitting position

Radiologic evaluation

- CT
- CT myelo
- MR

Predictive factors

- a) Neurologic deficit
- b) Positive tensioning tests
- c) Objective documentation (CT, MRI, Myelo)

Results:

97% success if all three of the above mentioned factors are positive.

82% success if two are positive.

70% success if there is only one positive.

Indications of fusion

- Relapse of symptoms more than twice
- Degenerative spondylolisthesis
- Instability (translation more than 4 mm, angular deformity exceeding 20 degrees)

Post operative care

- The patient is allowed to walk at 6 to 8 hour postoperatively after standard discectomy. If there exists a dural tear bed rest for two to three days is mandatory.

Complications

- Wrong level
- Neural injury
- Dural tear
- Scar formation
- Migration of fragments
- Cauda equina syndrome,
- Injuries of iliac arteries and veins or vital organs.

Neurologic recovery rates:

- % 25 reflex
- % 51 motor
- % 48 sensory

Success rates correlated with the type of herniations:

- Sequestered herniation: % 99.5
- Extruded herniation: %82
- Protrusion: % 63
- Normal or minimal bulging discs: % 38

Residual back pain according to the type of herniations:

- Complete: % 25
- Minimal bulging: % 55

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