Lumbar Spinal Stenosis

Recommendations of WFNS Spine Committee 2019

Recommendations for Natural Course and Diagnosis of Lumbar Spinal Stenosis

***** Approximately 30% of patients with lumbar spinal stenosis (LSS) are expected to worsen, but 30% may improve with conservative measures.

***** There are predictive sign/symptoms that they will worsen:

*Dural sac cross-sectional area <50 mm2

*Presence of radicular symptoms and back pain

*Presence of degenerative spondylolisthesis and/or scoliosis

*Illness duration >1 year

***** MRI is the most appropriate noninvasive test for the diagnosis of LSS and the second is CT scan. CT myelography is appropriate if MRI is contraindicated or inconclusive.

* There is not a correlation between clinical symptoms or function with the presence of anatomic narrowing of the spinal canal on MRI, CT or myelo-CT.

***** Qualitative radiologic criteria describe adequately spinal stenosis in central, lateral or foraminal stenosis.

***** There are some radiological signs that describes instability.

*Direct signs on functional radiograms.

*Indirect signs on MRI and CT such as Modic changes, end plate edema, extended discal vacuum, traction spurs, synovial cysts, annular tears, spondylolisthesis, “facet fluid sign”.

***** Routine electrophysiological tests (EMG, nerve conduction study, F-wave response, H-reflex, SEP, MEP) have no diagnostic value for LSS.

* Electrophysiological tests do not predict outcome of patients with LSS.

Recommendations for Conservative Treatment or Follow-up for LSS

***** If the clinical condition is not severe, a conservative approach based on at least 3 weeks of therapeutic exercise may be the first therapeutic choice.

* Medical/interventional treatment should be preferred to surgical treatment in spinal stenosis with mild symptoms.

***** Physical therapy should consist of multimodal approaches.

***** There is insufficient evidence to make a recommendation for the use of other physical therapy interventions (acquatic therapy, acupuncture, psychosocial intervention, transcutaneous tibial nerve stimulation, neural mobilization).

***** If conservative treatment is chosen, surgery should be considered, in case the clinical condition does not change in 3 months.

* There is no consensus if some factors can help us to advise a conservative treatment and the type of conservative treatment.

***** There are some cases in which an immediate surgical treatment should be indicated.

* There is no consensus if 3 or more months of conservative treatment should be applied before Surgery.

Recommendations for Percutaneous Techniques for LSS

* There is no consensus for the value of facet joint injections for treatment of low back pain.

***** Facet joint injections provide a useful diagnostic tool for low back pain.

* There is no consensus if facet/ medial branch nerve ablation should be performed when diagnostic facet joint injection is effective.

* The literature support a short- to intermediate-term benefits of the epidural injections for the symptomatic treatment of LSS.

* The inclusion of steroids do not seem to confer a benefit compared to local anesthetic alone in epidural injections for the symptomatic treatment of LSS.

***** For patients with symptomatic relief of less than 3 months after epidural injections, proceeding with further injections is not recommended.

Recommendations for Decompressive Surgery for LSS

* Surgical decompression is an effective option in patients with moderate to severe symptoms.

* There is no consensus whether microscopic techniques are equal to standard laminectomy to achieve adequate spinal canal decompression.

* There is no consensus whether unilateral laminotomy with bilateral decompression or bilateral laminotomy are not inferior to standard laminectomy for treatment of LSS.

* Minimally invasive surgery (MIS) has some advantages over open decompression for early clinical outcomes (blood losses, wound pain and hospital stay).

* MIS is associated with lower complication rates than open approach

* There is no consensus if MIS is a more cost-effective technique than open laminectomy.

* There is no consensus for overall complication rate and reoperation rates for lumbar decompressive surgery.

* Cardiopulmonary complications and stroke in this elderly population occur in about 2% and mortality is 0.5%

* New neurologic injury and postoperative hematoma after decompressive surgery are rare (≈1%).

* Incidental durotomy is common (almost 10%) and depends on established risk factors and has only a minor effect on outcome.

Recommendations for Fusion Surgery for LSS

* In patients with LSS and no sign or symptoms of instability and predominant leg pain, decompression alone is recommended

* In patients with stenosis and stable spondylolistesis, fusion is not mandatory and decompression alone is suggested.

* Unstable spondylolisthesis with symptoms may require fusion

* There is no consensus if the main complain is mechanical axial low back pain, more than leg pain, the patient may benefit from a fusion Surgery.

* Patients with LSS and loss of sagittal balance, if symptomatic, may benefit from decompression, fixation and deformity correction surgery

* In patients, who underwent bilateral facetectomy more than 50% and bilateral discectomy, fusion may be advisable

***** Facet joint effusion alone is not proven to correlate with stability

Recommendations for Mobility Preserving Surgeries for LSS

* Decompression is the basis of surgical treatment of LSS.

* Fusion is an option especially when spondylolisthesis or instability are present, but indications remain controversial.

* Adjacent Segment Disease (ASD) incidence reports display high variability. It may be rare with single level fusion or in patients with minimal degenerative disease.

    *Floating L4-L5 fusion

    *Poor sagittal balance

    *Multilevel fusion may be associated with more ASD

* Dynamic fixation constructs are treatment options that may help to prevent ASD.