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The Study of The Pattern of Back Pain Patients in Babylon Province

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Abstract

Back pain is the commonest cause that individuals to seek medical advice and sometimes loss their work and causes disability worldwide. The study aims to estimate the common cause of lower back pain in Babylon province and to determine the best surgical procedure for those who need surgery. Method: On 100 patients, a cross-sectional investigation was done; 45 patients were (female) and 55 patients were (male), attending an outpatient clinic in Hilla teaching hospital. All of the study participants complained of back discomfort, and their health was assessed through clinical checks and MRIs. Results: single-level disc prolapse account for 20%, constituting 20% of the total number of patients complaining of lower back pain in this study, and 10% of total patients complaining of lower back pain in this study at the different spinal level. Conclusion: For men, lumbar disc degeneration is the most typical cause of lower back pain. Per the patient, many levels of disc involvement were seen. The MRI was the often-used imaging modality for determining disc pathology.

Keywords

Magnetic Resonance Imaging, Disc prolapse, osteoporosis, Electromyography, Nerve Conduction, scoliosis, backache.

One of the most frequent conditions that lead individuals to look for medical attention, occasionally lose their jobs, and become disabled globally is low back pain (1). There is a range of pain that includes neuropathic, nociceptive, non-specific, and other types of pain, which frequently overlap (2, 3). Low back pain has many contributing variables, and imaging and diagnostic injections are not very specific, therefore there is an ongoing debate over the best diagnostic procedures (2). Biology, psychology, and society all have a role in the complexity of lower back pain, which affects both the feeling of the pain and the related impairment (4). It's common to hold irrational beliefs, attitudes, and imaging techniques (5).

Low self-worth (i.e., self-reliance in one's ability to cope with life regardless of the pain), passive handling mechanisms, high catastrophizing and fear-avoidance dogmata, hopelessness, emotional distress, sleep factors, low educational levels, social class, joblessness are risk factors for a poor prognosis for lower back pain (6, 7).

The majority of lower back pain patients are non-specific and lack a clear anatomical etiology (8). Pain and decreased physical function are the hallmarks of non-specific pain, which is also linked to a considerable decline in mental and physical health as well as a higher chance of evolving chronic illnesses and all-cause mortality (9).

Although lower back pain sometimes coincides and is confused with buttock discomfort, the buttock

area is physically separate and includes the zone from both iliac crests down to the gluteal folding. The anatomical landmark of the lower back is started from the twelfth rib and downward to the iliac crest. Most people have severe low back pain at least once in their lifetime. Usually self-limiting, but frequently chronic, this condition. According to studies, over 60% of those with mechanical lower back pain would still be in pain or experience it frequently one year after it first appears (10).

A thorough understanding of the scenario of lower back pain would aid in our comprehension of the heterogeneity in low back pain and its effects (11). A tiny percentage of studies have been done on the overall pattern of back pain patients in Iraq and how they are treated surgically. On this base, the study aims to estimate the common cause of back pains in Babylon province as well as to determine the best surgical procedure for those who need surgery.

Material and Methods

This cross-sectional study was piloted on 100 patients 45 patients (female) and 55 patients (male), attending the outpatient clinic complaining in Hilla teaching hospital for two years starting from January 2017 to February 2019. All patients included in this study were complaining of back pain, those patients were evaluated for clinical examinations and MRI, accordingly, the patients were classified as follows:

A. 44 patients have degenerative spinal diseases (20) patients have single-level disc prolapse (10) patients have L5S1disc prolapse, (6) patients have L4, 5 disc prolapse, and (4) patients have L3, 4 disc prolapse, (10) patients have multiple-level disc prolapse (3) patients have L4, 5, S1disc prolapse, (4) patients have L3, 4, 5 disc prolapse and (3) patients have L2, 3, 4 disc prolapse, (14) patients have lumber stenosis (5) patients have L4, 5 stenoses, (4) patients have L3, 4, 5 stenoses and (5) patients have L5, S1 stenosis.

B. 20 patients have mild disc prolapse

C. 20 patients have muscular spasms with normal MRI lumbosacral spine

D. 13 patients have back pain from previous spinal surgery (laminectomy)

E. 3 patients have Spinal tumors excluded because not attended again

Exclusion criteria

Spinal Tumor, Surgery is done for the

1. (20) patients with single-level disc prolapse (10 patients have L5S1 disc prolapse, 6 patients have L4, 5 disc prolapse, and 4 patients have L3, 4 disc prolapse).
2. (10) patients have multiple levels of disc prolapse (3 patients have L4, 5 S1 disc prolapse, 4 patients have L3, 4, 5 disc prolapse, and 3 patients have L2, 3, 4 disc prolapse).
3. (14) patients have spinal stenosis (5 patients have L4, 5 stenoses, 4 patients have L3, 4, 5 stenosis, and 5 patients have L5 S1 stenosis).

Result

Table (1) shows the causes and the percentage of cases with back pain in the current study, the single level of disc-prolapse account for 20%, multiple-level disc prolapse 10%, spinal stenosis 14%, mild disc prolapse 20%, muscular spasm 20%, previous spinal surgery 13%, and 3% spinal tumors were excluded from this study.

Table (2) show the number of patients with single-level disc prolapse at different spinal level, which constitutes 20% of the total number of patients complaining of lower back pain in this study, of those 20 patients 10 patients have disc prolapse at L5 S1 level, 6 patients have L4 L5 disc prolapse and 4 patients have L3 L4 disc prolapse.

Table (3) show the number of patients with multiple-level disc prolapse which constitute 10% of total patients complaining of lower back pain in this study at different spinal level, 3 patients have L4 L5 S1 disc prolapse, 4 patients have L3 L4 L5 disc prolapse and 3 patients have L2 L3 L4 disc prolapse.

Table (4) show the number of patients with spinal stenosis which compromise 14% of total patients complaining of lower back pain in this study at different spinal level, 5 patients have stenosis at L4 L5 level, 4 patients have L3 L4 L5 stenosis, and 5 patients have L5 S1 stenosis.

Table (5) shows the different surgical modalities for those who need surgery, laminectomy, discectomy plus foraminotomy done for: (10) patients with L5S1 disc prolapse, (2) patients with L45 disc prolapse, and (4) patients with L3, 4, 5 disc prolapse.

Whereas laminectomy plus discectomy was done for (4) patients with L3, 4 disc prolapse, (4) patients with L4, 5 disc

prolapse, (3) patients with L4, 5 S1 disc prolapse, and (3) patients with L3, 4, 5 disc prolapse. Laminectomy plus foraminotomy was done for (4) patients with L45 stenosis, (3) patients with L345 stenosis, and (3) patients with L5S1 stenosis whereas laminectomy surgery alone was done for one patient with L45 stenosis, one patient with L3, 4, 5 stenosis and (2) patients with L5 S1 stenosis. Of those 20 patients with single-level disc prolapse laminectomy, discectomy plus foraminotomy was done for 12 patients (10 patients have L5 S1 disc prolapse and 2 patients have L4 L5 disc prolapse), and laminectomy plus discectomy was done for the remaining patients (4 patients have L4L5 disc prolapse and 4 patients have L3 L4 disc prolapse). whereas for those with lumber stenosis, 10 patients had laminectomy plus foraminotomy done for them (4 patients have L4 L5 stenosis, 3 patients have L3, 4, 5 stenosis and 3 patients have L5 S1 stenosis), while the remaining cases of stenosis 4 patients (1 patient has L4 L5 stenosis, 1 patient has L3L4L5 stenosis and 2 patients have L5 S1 stenosis) laminectomy done for them.

For those with multiple levels of disc prolapse (10) patients, laminectomy plus discectomy was done for those with L4, 5 S1 3 patients and L3, 4, 5 (3) patients (6 patients) while those with L3, 4, 5 disc prolapse (4 patients) Laminectomy, discectomy plus foraminotomy done for them.

Table (1): The causes and (%) of patients with back pain in this study.

Causes of back pain	No of patients	%
Disc prolapse single level	20	20
Multiple-level disc prolapse	10	10
Spinal stenosis	14	14
Mild disc prolapse	20	20
Muscular spasm	20	20
Previous spinal surgery laminectomy	13	13
Spinal tumors	3	3
Total No of patients	100	100%

Table (2): The number of patients with single-level disc prolapse at different spinal levels

Single-level disc prolapse	No of the patients
L5, S1	10
L4, L5	6
L3, 4	4
Total No of patients	20

Table (3): the number of patients with multiple-level disc prolapse at different spinal levels

Multiple Level disc prolapse	No of patients
L4, 5 S1	3
L3, 4, 5	4
L2, 3, 4	3
No patients	10

Table (4): the number of patients with spinal stenosis at the different spinal levels

Spinal stenosis	No of patients
L4, 5	5
L3, 4, 5	4
L5, S1	5
Total cases of lumber stenosis	14

Table (5): types of surgical modalities in this study.

Type of surgical modalities	Disc prolapse level	Stenosis level	Number of patients
Laminectomy, discectomy, and foraminotomy	L5, S1 L4, L 5 L3, 4, 5		10 2 4
Laminectomy plus discectomy	L3, L4 L4, L5 L4,5 S1 L2, 3, 4		4 4 3 3
Laminectomy plus foraminotomy		L4, 5 L3, 4, 5 L5, S1	4 3 3
Laminectomy		L4, 5 L3, 4, 5 L5, S1	1 1 2

Discussion

In this study different surgical modalities for treating degenerative spinal diseases (disc prolapse and stenosis) among the patients attending outpatient clinics have been done. For patients complaining single-level of disc-prolapse with root compression associated radicular pain; decompressive laminectomy, discectomy plus foraminotomy (12), are done for them according to the intraoperative findings of root pressure from disc material or osteophytes so it's very important to visualize the spinal root intraoperatively to assess the degree of root pressure from the bone (osteophyte) or disc material and may need to do freeing of the spinal root (de roofing) of the intervertebral foramina and relieve the pressure from the roots because some patients still complaining from radicular pain post-operatively because of unnoticed root pressure intraoperatively. A bundle of spinal nerves (spinal roots) arises from the spinal cord via openings in the spinal vertebrae, termed "neural foramina". Pressure on the nerve might result from the narrowing of the nerve root apertures. Foraminal spinal stenosis is the medical term for this ailment, which requires a foraminotomy to decompress it (13). If there are severe symptoms that affect everyday

living, foraminotomy surgery may be considered (14). Manifestations include Pain that could be felt in the lower back, calf, or thigh. The pain is frequently constant and deep. Pain when performing specific tasks or operating the body in a specific manner. Muscle weakness, tingling, and numbness. MRI to confirm that foraminal stenosis is the source of the symptoms (15).

Contrary to a revision by Edmond C. et al., lumber disc herniation can be successfully treated without surgery in cases of major LDH (16), ensuring that patients are checked for Cauda equina syndrome and adequately informed about the need to seek immediate medical attention if red-flag symptoms appear. In our study lumber disc herniation causes severe intractable pain and numbness in the patient's leg that mandates surgery by discectomy and improvement of the patient's condition. Some patients in our study need just decompressive laminectomy and their condition gets better during follow-up observation the patient gets free of pain gradually after surgery. Spinal stenosis may appear directly above or below the surgical site following a laminectomy and fusion. The risk of complications and spinal instability increases with additional spinal stenosis operations. (17). The majority of medical professionals advise against surgery for persons with spinal stenosis. The majority of the time, lumbar spinal stenosis surgery will reduce pain, numbness, and weakness that primarily affects the legs. Surgery might not be as effective in treating pain that is primarily in the back (18). Also in this study, the delineation of the disc material and foraminal stenosis was very obvious intraoperatively and managed better by decompressive laminectomy and discectomy, and foraminotomy than in endoscopic minimally invasive surgery with limited access to the spinal canal and spinal root foramen (19).

Conclusion

The most frequent factor contributing to low back pain is lumbar disc degeneration. Disc degeneration affects men more commonly than women. Per person, different disc levels are observed to be involved. At the L4-L5 disc level, faceted arthropathy, an annular disc rupture, disc herniation, disc extrusion, reduction in spinal canal width, constriction of the lateral recess, compression of the neural foramen, and ligament flavum thickening are frequent. Spondylolisthesis and L1-L2 disc involvement are less frequent. Due to its advantages of not using radiation, multiplanar imaging capacity, high spinal soft-tissue contrast, and particular localization of intervertebral disc alterations, MRI is the standard imaging technique for detecting disc pathology.

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