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Herniated nucleus pulposus pdf

Facebook Twitter LinkedIn Pinterest Backbone or Spine consists of 33 vertebrae that are separated from spongy discs. The spine is divided into 4 areas: Spine neck: First 7 vertebrae, located in the neck of the thoracic spine: the following 12 vertebrae, located in the thorax area of the lumbar spine: the following 5 vertebrae, located in the lower back of the spine: the lowest 5 vertebrae, located below the waist, also contains 4 vertebrae that form a tailbone (coccyx) of the spine consisting of 5 bony segments of the lower back back , which is where the lumbar spine occurs. Bulging disk. With age, the intervertebral disc can lose fluid and dry. As it happens, the urbane disc (which is located between the bony parts of the spine and acts as a shock absorber) becomes compressed. This can lead to the interruption of the heavy outer ring. This allows the nucleus or the inside of the circle to bulge. This is called a bulging disk. Ruptured or herniated disc. As the disc continues to break down, or the continued stress on the spine, the inner core pulposus can actually rupture out of the annulus. It's torn or herniated. disc. Fragments of disk material can then press the nerve roots located just behind the disk space. This can cause pain, weakness, numbness or changes in sensitivity. Most disc herniations happen in the lower name area of the spine, especially between the fourth and fifth lumbar vertebrae and between the fifth lumbar vertebrae and the first sacrum (L4-5 and L5-S1 levels). What causes lumbar disc disease? Lumbar disc disease is caused by a change in the structure of the normal disk. In most cases, disc disease occurs due to aging and normal decomposition within the disc. Sometimes, a serious injury can cause a normal disc hernia. The injury can also cause the already herniated disc to get worse. What are the risks of lumbar disc disease? Although age is the most common risk, physical inactivity can cause weak back and abdominal muscles that may not support the spine properly. Back injuries also increase when people who are usually not physically active take part in too intense activities. Work that requires heavy lifting and twisting of the spine can also cause back injuries. What are the symptoms of lumbar disc disease? Symptoms of lumbar disc disease vary depending on where the disc is herniated, and what nerve root it is pushing. These are the most common symptoms of lumbar disc disease: Intermittent or continuous back pain. This can be made worse by movement, coughing, sneezing, or standing for a long time Spasm of the back muscles of the sciatica – pain that begins near the back or buttock and moves down the leg to the calf or leg muscle weakness in the legs Numbness of the leg or leg Decreased reflexes of the knee or ankle Changes in bladder or bowel function symptoms of lumbar discs may appear other conditions may appear other conditions to solve medical problems. Always contact your healthcare provider for a diagnosis. How is lumbar disc disease diagnosed? In addition to the complete medical history and physical exam, you may have one or more of the following tests: X-ray. The experiment, which uses invisible electromagnetic energy beams to produce images of internal tissues, bones and bodies onto the film. Magnetic resonance imaging (MRI). A procedure that uses a combination of large magnets, radio frequencies and a computer to produce detailed images of body organs and structures. Myelogram. The procedure, which uses color, is injected into the spinal canal to make the structure clearly visible in x-rays. CT scan scans (also called CT scan or CAT scanning). A imaging procedure that uses X-rays and computer technology to create horizontal or axis images (often called slices). CT scanning shows detailed images of any part of the body, including bones, muscles, fat, and organs. CT scans are more detailed than general X-rays. Electromyography (EMG). A test that measures muscle reaction or electrical activity in response to nerve stimulation of the muscle. How to treat lumbar disc disease? Typically conservative treatment is the first in line of treatment to manage lumbar disc disease. This may include a mixture of the following: Bed rest Education with proper body mechanics (help reduce the chance of worsening pain or damage to the disc) Physical therapy, which may include ultrasound, massage, conditioning, and exercise programs Weight control Use lumbosacral back support medicine to control pain and relax muscles If these measures fail, you will need surgery to remove the herniated disc. The surgery is performed under general anesthesia. Your surgeon will make an incision in your lower back over the area where the disc is herniated. Some of the bone on the back may be removed to access the disk. Your surgeon will remove the herniated part of the disc and all the extra loose pieces of disk space. After surgery, you may have limited activity for several weeks if you heal to avoid another disc herniation. Your surgeon will discuss with you all the limitations. What are the complications of lumbar disc disease? Lumbar disc disease can cause back and leg pain, which interferes with daily activities. This can cause leg weakness or numbness and problems with bowel and bladder control. Can lumbar disc disease be prevented? Maintaining a healthy weight, participating in regular exercise, and using a good posture may reduce your risk of lumbar disc disease. Living with lumbar disc disease Conservative treatment requires patience; but sticking to your treatment plan can reduce back pain and reduce the chance of worsening pain or damage to the disc. Conservative measures and surgery can both take time to be effective. When should I call my health care provider? Contact your healthcare professional if your pain is increasing or if you have problems with your bowel pöiekontrolliga. pöiekontrolliga. points around lumbar disc disease lumbar disc disease may occur when the disc lower back bulge or herniates with the violent disc ringretrine or salmon. [12] It is important to interpret clinical manifestations secondary to floppy herniation. Wiltse proposed these anatomical zones based on the following landmarks: the mediocre boundary of the joint, the lateral, upper, and center lines of children, the coronation and sagittal levels in the middle of the disc. At axis level, these landmarks shall determine the central zone, the alar istipol zone (lateral intermediates), foraminal and extraforaminal zones. At the sagittal level, the levels are referred to as: supra paediatric level, paediatric level, infrastructure level and disk level. Proper knowledge of the anatomy and relationship between nerve roots and disc herniation allows proper understanding of the common clinical findings associated with this problem. There are two main mechanisms to explain the radial pain of secondary nucleus pulposus herniation: Mechanical compression and inflammatory reaction. Clinical symptoms can vary depending on several factors, such as the location of the hernia (level), nerve compression, and development. Nucleus pulposus herniation can produce low back pain; however, the primary clinical manifestation is radiculopathy, which manifests mainly in radiating pain and sensitive changes that include nerve distribution. In addition, reflex evaluation (reduced reflex) may help identify the endangered nerve root. The Court summas the motor function, sensitive breakdown, and reflex of the most common nerve roots involved in the cervix and lumbosacral nucleus pulposus herniation:Cervical: C5 nerve root: Exits between C4 and C5 foramina, innervates of the deltoid muscles and biceps (with C6), sensory breakdown: lateral arm (aksillal nerve) and evaluated biceps reflex. C6 nerve root: comes out of C5 and C6 foramina, innervates biceps (with C5) and wrist extensives, sensory breakdown: lateral forearm (muscle-lung nerve), evaluated brachioradial reflex. C7 nerve root: Exits between C6 and C7 foramina, innervates triceps, wrist bend, and finger extensors, sensory breakdown: middle finger, evaluated triceps reflex. C8 nerve root: Exits between C7 and T1 foramina, innervates interosseus muscles and finger flexors, sensory breakdown: ring and small fingers and distal side of the forearm (ulnar side), no reflex. Lumbosacral:L1 nerve root: exits between L1 and L2 foramina, innervates iliopsoas muscle, sensory breakdown: upper third thigh, rated kremasteric reflex (male). L2 nerve root: Exits between L2 and L3 foramina, innervates iliopsoas muscle, hip, and

quadriceps, sensory breakdown: mean third thigh, no reflex. L3 nerve root: Exits between L3 and L4 foramina, innervates iliopsoas muscle, hip, and quadriceps, sensory breakdown: lower third thigh, no reflex. L4 nerve root: Exits between L4 and L5 foramina, innervates quadriceps and tibia anesthetic, sensory distribution: anesthetic, the mediocre side of the leg, assessed by patellar reflex. L5 nerve root: Comes out between L5 and S1 foramina, innervates extensor mold, extensor digitorum sagging and brevis and gluteus medius, sensory breakdown: front foot, side foot, and dorsum mouth, no reflex. S1 nerve root: Exits between S1 and S2 foramina, innervates gastrocnemius, soleus, and buttocks, sensitive breakdown: posterior thigh, plantar area, rated Achilles reflex. Cervical and thoracic disc herniation may also occur as symptoms of myelopathy such as spasticity, clumsiness, broad-based gait, and weakness, physical examination of hyperreflexia is the most important sign. The lhermitte sign is the presence of an electric shock-like sensation towards the back and lower extremities, especially the bending of the neck. [13] [14] Bowel and bladder dysfunction may indicate poor prognosis. In the presence of low back pain without symptoms of radiculopathy, there is no need to request studies because most patients will recover within a few weeks, a 4-week follow-up is the usual schedule. [15] X-ray is an initial exercise if there is a strong suspicion of cervical or back pain (fracture, infection, tumor) or red flags (fever, age over 50, recent trauma, nocturnal or rest time, unexplained weight loss, progressive motor or sensory deficit, saddlelesion, cancer or osteoporosis history, failure to improve 6 weeks of conservative treatment). Anteroposterior and side X-ray are useful in assessing fracture, bone deformation, reduced intervertebration height, osteophytes, spondylolisthesis, and trimmed joint osteoarthritis. MRI is recommended for diagnostic imaging of severe or progressive neurological deficits, suspected diseases such as infection, fracture, cauda equina syndrome, spinal cord compression. In the case of radiculopathy, the majority of cases improve with conservative therapy and MRI is indicated in those with significant pain or neurological deficits. [16] CT myelogram is an imaging option in patients with contraindications to MRI. CT scan is not usually requested for nuclear pulposus herniation. However, this may be useful in some cases if there is a suspicion of calcified disc herniation (thoracic disc herniation is a 30-70% rate of calcification), which is more complex, especially if surgery is reward. Treatment management of the nucleus pulposus herniation involves conservative and surgical treatment. Conservative treatment is the main strategy due to natural limp pulposus herniation, a good response to pain treatment or nerve root steroid injections as well as in some cases spontaneous regression. [17] [18] Some patients do not benefit from conservative treatment and requires surgery to disconnect the nerve involved. Classical surgical indications include motor deficit, cauda equina syndrome and persistent pain after conservative treatment. Cervical disc herniation, there is no evidence of the effectiveness of conservative treatment compared to surgery [Level I]. [19] Various randomised controlled trials (RTC) have compared conservative versus surgical treatment in lumbar spine herniation, monitoring faster pain relief and recovery in early surgical groups, but similar results were found in the long term (one or two years). [20] [21] In the second study, carefully selected patients undergoing lumbar spine herniation surgery achieved a greater improvement compared to nonoperative treated patients after eight years [level II]. [22] Nucleus pulposus herniation is the most common cause of radicular pain in the lumbar spine and the second most common cause of the cervical spine after degenerative spondylosis; however, other conditions of differential diagnostics should be considered for example: Connected nerve rootFacet joint cystFacet joint / ligamentum flavum hypertrophy/schwannomaSpondylolisthesisThesis Most patients suffering from nuclear pulposus herniation experience symptoms of resolution without surgery. [23] Conservative treatment is effective and patients usually experience relief of symptoms after a few weeks. However, in some cases, conservative treatment does not improve and may require more invasive therapies such as nerve root steroid injections or even surgery. The presence of myelopathy in the herniation of central nucleus pulposus or chest area is a sign of surgery, especially the progression of symptoms. Complications associated with the nucleus pulposus herniation may result from compression effects on the nerve root in severe cases resulting in motor deficits, cervical and thoracic spine are also at risk of spinal compression in severe cases. These complications are relatively rare, but they should be considered and properly treated to avoid persistent neurological deficits. Cauda equina syndrome is another complication that results from the lumbosacral nerve root compression of possible bowel or bladder dysfunction. This is a rare condition (less than 1%). However, it is considered an absolute indication of acute surgical resolution, and early decompression is associated with improvement of symptoms. [24] It is important for patients to recognize radial pain, as this may be due to the nucleus pulposus herniation of the cervix or lumbar spine. It is important to consult after persistent radiant pain and examine the primary care provider. Most symptoms usually improve with conservative treatment; only a few cases with severe pain or neurological deficiency may require further imaging and additional specific attention. Nucleus pulposus herniation is a common complaint for young adults; clinical symptoms such as lower back or cervical pain with radial pain (brachialgia or sciatica) may raise doubts about possible inflammation/compression of the nerve root and further referral to a specialist. In cervical discs herniation, there is no evidence of the effectiveness of conservative therapy compared to surgery [Level I], on the other hand carefully selected patients who underwent surgery for lumbar disc herniation to achieve greater improvement compared to nonoperative treated patients [Level II]. Coordinated efforts by primary care providers, professionally trained nurses, spine specialists, physiotherapists and chiropractors (who may be the patient's first point of contact), communication between professions and provision of patient and family education are essential to manage proper management of symptomatic nuclear impulses in herniation patients [Level V]. Refresher/Review QuestionsTables one and two Nucleus pulposus herniation. Helped by Gaston Camino Willhuber, MD Figure 1. A) Normal Disk Anatomy B) Disc Protruding C) Disc Extrusion D) Disc Sequestration. Co-authors Franco De Cicco MD 1.Martin BI, Mirza SK, Comstock BA, Gray DT, Kreuter W, Deyo RA. 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