

CERVICAL SPONDYLOSIS

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Introduction

The cervical spine consists of the top 7 vertebrae of the spine. These are referred to as C-1 to C-7. The "C" indicating the cervical, and the numbers 1 to 7 indicating the level of the vertebrae. C1 is closest to the skull, while C-7 is closest to the thoracic (chest / rib cage) region of the spine.

The cervical spine is particularly susceptible to degenerative problems because of:

- It's large range of motion
- It's somewhat of complex anatomy.

For example, cervical motion segments (i.e. a disc with a vertebra above and below) consist of five "joints" (the intervertebral disc, the two facet joints, and the two uncovertebral joints).

Prolonged degeneration of the cervical spine results in a narrowing of the spaces between vertebrae, forcing intervertebral disks out of place and thus compressing or stretching the roots of the cervical nerves. The vertebrae may themselves be squeezed out of proper alignment. Arthritis developing in reaction to the stress generates new, anomalous bone growth (the "spondylitic bar") that impinges on the spinal cord, further interfering with nervous function.

Symptom

The typical symptoms of cervical spondylosis consist of a radiating pain and stiffness of the neck or arms, restricted head movement, headaches, spastic paralysis, and weakness in the arms and legs. Because of the combination of neurological symptoms and bone degeneration and the common incidence of arthritis in the elderly, cervical spondylosis may be difficult to distinguish from primary neurological disease with unrelated arthritis.

The degenerative process may begin in any of the joints in the cervical spine, and over time it may also cause secondary changes in the other joints. For example, an intervertebral disc may be primarily affected. As the disc narrows, the normal movement of that segment is altered, and the adjacent joints (also called 'osteoarthritis' or 'degenerative joint disease') are subjected to abnormal forces and pressures leading to degenerative arthritis (i.e. inflammation of a joint).

Dysphagia (i.e. difficulty in swallowing) can result from large anterior osteophytes (i.e. bony growths at the front of the spine), although this is rare.

Clinical Aspects

As in the lumbar and thoracic spine, herniation of the contents of an intervertebral disc may occur when a tear occurs in the annulus fibrosus. However, whereas in the lumbar spinal canal only nerve roots are present, in the cervical canal the spinal cord may be compressed. The symptoms and signs produced are the result of nerve root compression, spinal cord compression, or both.

The most common complaint is **neck pain**, which limits motion and is aggravated by neck extension. Pain also may radiate into one arm, in a pattern characteristic of the particular root involved (see below). Patients often hold the arm elevated and behind the head, presumably because this maneuver reduces the tension on the nerve root and thus lessens the pain. In most cases, the onset of pain is upon awakening, without identifiable trauma or other precipitating event.

Manifestation	Level of Disc Herniation			
	C4-5	C5-6	C6-7	C7-T1
Root Compressed	C4	C5	C6	C7
Weakness	Deltoid	Biceps	Triceps, wrist extension	Hand intrinsics, wrist flexion
Sensory Loss	Lateral shoulder	Lateral arm & forearm, thumb & lateral aspect of index finger	Middle finger	Ring & little fingers
Reflex Involvement	Deltoid, pectoralis	Biceps	Triceps	Finger flexion

Table 1. The most common clinical manifestations of cervical disc herniation.

Table 1 shows the usual cervical root syndromes (**radiculopathy**). Note that the C6-7 disc is the most frequently herniated, about 2/3 of cervical herniations. The C5-6 disc is involved about 20% of the time, the C7-T1 about 10%, and the C4-5 about 2%.

If the disc herniation compresses the spinal cord, certain deficits may result (**myelopathy**). Weakness in the hands and arms may be more generalized or bilateral, rather than confined to a root distribution. In addition, there may be leg weakness, usually manifested initially by a feeling of heaviness in the legs and noticeable difficulty in

walking usual distances or up stairs. Examination may show hyperactive reflexes, pathological reflexes, and a spastic gait. Finally, sphincter and sexual function may be compromised, usually later in the progression of myelopathy. Cervical spondylotic myelopathy is discussed in the following section.

Lhermitte's sign refers to a sudden electrical sensation down the neck and back triggered by neck flexion. This was originally described in a patient with multiple sclerosis and dorsal column dysfunction. The conditions which can produce a Lhermitt's sign are:

1. Multiple sclerosis
2. Cervical spondylosis
3. Cervical disc herniation
4. Cervical spinal cord tumor
5. Chiari I malformation
6. Radiation myelopathy
7. Subacute combined degeneration (caused by vitamin B12 deficiency)

Other signs may help in aiding the physical diagnosis. These are very suggestive of cervical disc herniation when present, but are frequently absent in the presence of the disease (that is, they are specific but not sensitive). **Spurling's sign** refers to the reproduction or exacerbation of pain upon pushing down on the head and bending it toward the involved side. The reduction of pain when axial traction is applied to the head is also suggestive of a disc. Finally, in the shoulder abduction test raising the affected arm above the head reduces the pain.

Radiographic Studies

The radiographic evaluation of a suspected spine disorder begins with **plain X-rays**. A herniated disc, being composed of soft tissue rather than bone, will not be seen on X-ray, however other associated changes may be seen, such as the characteristic bony ridges of cervical spondylosis. In addition, the alignment can be accurately assessed.

MRI has in most cases become the study of choice in cervical disc herniation. Its superior resolution of soft tissues gives good definition of disc material, cord compression, and root compression. When bony detail is required, a **myelogram/CT** should be obtained. This is more invasive than MRI and may produce effects such as headache, but in some cases may be essential in defining the anatomy.

Diagnosing the Problem

When a patient with a degenerative disorder of the cervical spine is examined, one or more symptoms are likely to be apparent. The doctor will ask the patient many questions to gain a detailed history of the condition. A thorough evaluation of the patient will be conducted, including several types of tests, so as to accurately identify the problem.

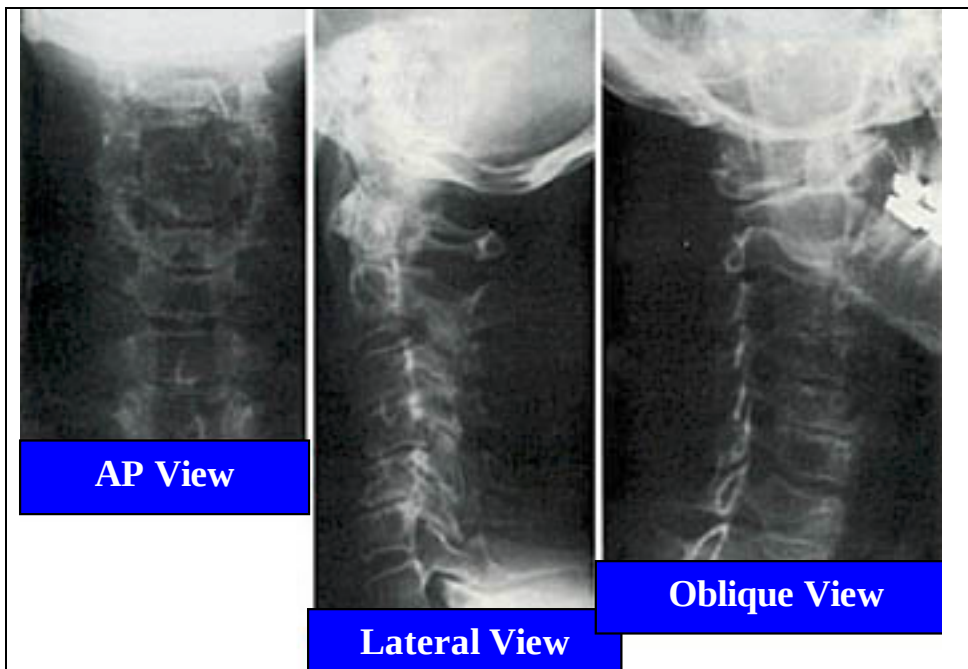
A neurologic examination will be done to rule out a neurologic deficit. A shoulder examination will also probably be done to ensure that the symptoms are indeed originating from the neck.

Various diagnostic tools may be used, including:

X-rays

X-rays are useful for identifying such problems as:

- narrowing of the intervertebral disc space
- anterior osteophytes (i.e. bony spurs)
- spondylosis (i.e. arthritis) of the facet joints
- osteophytes from the uncovertebral joints (see figures below)



X-ray views of cervical vertebrae

Computed Tomography

Computed tomography (CT) can highlight the bony changes associated with degenerative spondylosis (arthritis). Osteophytes can be observed and evaluated as well. However, CT does not provide for optimal evaluation of discs (although it may sometimes show disc herniations).

Magnetic Resonance Imaging

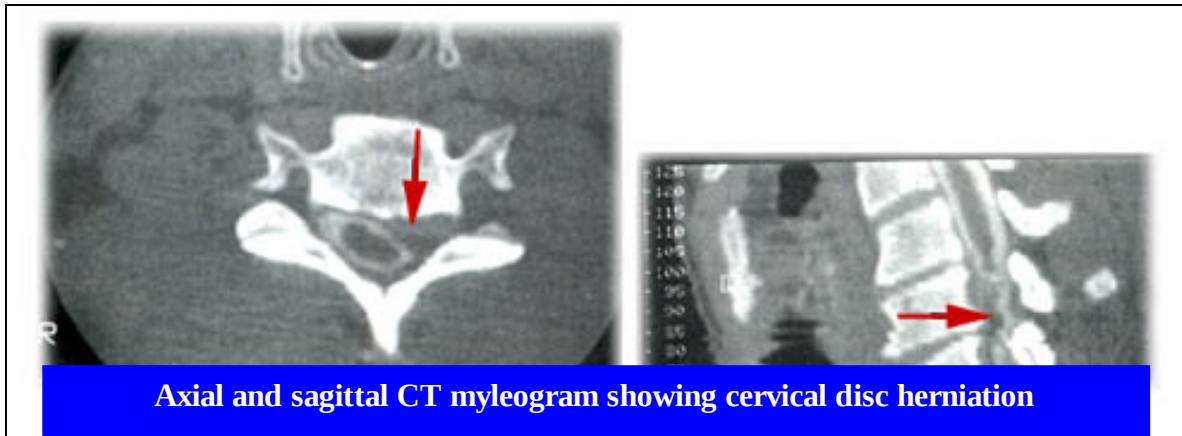
Magnetic resonance imaging (MRI) is a powerful tool in the assessment of patients with cervical spondylosis. Images from MRI's can help doctors to identify disc herniations, osteophytes and joint arthrosis. MRI is best suited for soft disc herniations, but often times more information is needed.



MRI assessment of cervical

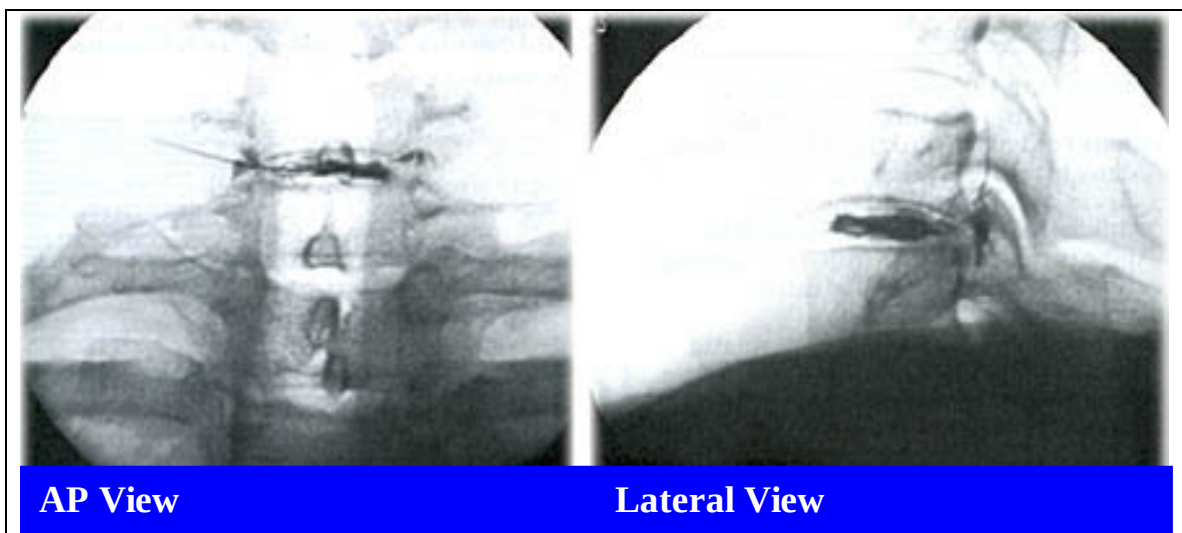
Myelogram/CT

This is the "gold standard". It is often utilized in complex cases involving multi-level disease, or suboptimal MRI images. It is very useful in delineating bone spurs from safe disc herniations.



Discography

As in the lumbar and thoracic spine, cervical discography (see figure) remains controversial. Although the discogram may add to the clinician's knowledge, it should not be used by itself to predicate treatment.



Treatment Options

After conducting the necessary tests to identify the problem in the cervical spine, a treatment plan will then be developed. Various treatment options are available, and can be subdivided into two categories:

- Non operative treatment
- Operative treatment.

Nonoperative Treatment

It is believed in Allopathic system of Medicine that Non operative treatment of cervical degenerative disease provides good to excellent results in over 75% of patients. A multidisciplinary approach includes:

- Immobilization - can be achieved using a collar or braces; most beneficial during acute exacerbations of pain by reducing motion at the symptomatic levels.
- Physical therapy consists of traction, Diathermy and manipulation (chiropractic) - can be useful in decreasing muscle spasms that can contribute to symptoms; this is where heat, electrical stimulation, and exercise have their maximum benefit.
- Medications - including painkillers, non steroidal anti-inflammatory, and muscle laxants. In many cases, non operative treatment can provide good long-term results.
- Homoeopathic system of medicine provides a complete cure of this problem. The most common Homoeopathic remedies used in such cases are:

Homoeopathic Remedies:

Calcarea Carb: Stiffness and rigidity at nape of neck in morning, Pain in neck, on turning head, Burning pain in nape of neck to occiput, lasting all day, and ceasing only on going to sleep at night, Rheumatic pain in upper cervical vertebrae, with stiffness of neck. Easily over strains himself from lifting, from which neck becomes stiff and rigid, with headache, Easily over strains himself from lifting, from which neck becomes stiff and rigid, with headache, Pain between shoulders and in lower part of back, drawing pain between shoulder blades, Dull shocks upward to between shoulder blades, from posterior wall of chest. Cervical Spondylitis. Most successful remedy in treating Cervical Spondylosis.

Lycopodium: An constitutional remedy for persons over 40 years of age.

Lachanantes: Stiffness & rheumatism of the neck. Pain in neck as if dislocated. Severe muscle spasm so much so that neck drawn over to one side.

Kalmia Lat: Pain from neck down arm. Most effective when changes are in C5 to 7.

Cimicifuga: Stiffness and contraction in neck. Most suitable to Computer professionals, musicians and stenographers.

Rhus Tox: Pain & stiffness in neck better by motion or lying something hard. Worse while sitting and exertion. Better by warm applications.

Bryonia: Painfull stiffness of the neck worse by sudden change in weather, movement. Better by hard pressure, lying on painful side and cold things.

Operative Treatment

A surgeon is likely to consider a surgical treatment of a cervical degenerative problem if one or more of the following criteria are met:

- Non operative treatments have been tried and failed
- The disorder is causing spinal cord dysfunction
- The disorder is causing prolonged arm pain or weakness

The surgical procedure proposed for these patients is removing the bone spur and possible fusion of two or more cervical vertebrae. In most instances, the preferred approach is an anterior (i.e. from the front) inter body fusion. Using the anterior approach, a surgeon can perform a complete discectomy (i.e. removal of the disc between two vertebrae), and then seek to restore the normal disc space height and normal lordosis (i.e. the concave curve in the cervical spine) by implanting a carefully sculpted graft. A titanium plate may be utilized to improve the rate of fusion and avoid a neck brace.

A posterior approach (from the back of the spine) is often considered when a cervical disc has herniated laterally (i.e. sideways).

Conclusion

Cervical spine degenerative disorders can be diagnosed more accurately and treated more effectively today than even.

WARNING

The above given details about the medicines for treatment of Cervical Spondylosis should be taken under the proper guidance of a qualified & registered Homoeopathic Physician.

" Under no circumstances one should take these medicines by itself ".