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A PATIENTS GUIDE TO:
DEGENERATIVE DISEASES OF
THE CERVICAL SPINE

Guide to Degenerative Diseases of the Cervical Spine

Introduction

The cervical spine consists of the top 7 vertebrae of the spine. Doctors often refer to these vertebrae as C1 - C7, with the "C" indicating cervical, and the numbers 1-7 indicating the level of the vertebrae. C1 is closest to the skull, while C7 is closest to the thoracic (chest/rib cage) region of the spine.

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

- its large range of motion
- its somewhat complex anatomy.

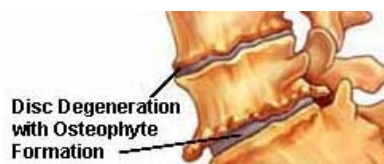
For example, cervical motion segments (i.e. a disc with a vertebra above and below) consist of five "joints" (the intervertebral disc, the two facet joints, and the two uncovertebral joints).

Symptoms

There are several symptoms that may indicate the presence of a degenerative condition in the cervical spine. Symptoms include, neck pain, pain around the back of the shoulder blades, arm complaints (pain, numbness or weakness), and rarely, difficulty with hand dexterity or walking.

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).

Neck pain as a result of spondylosis (i.e. a degenerative change/arthritis) is relatively common. The pain may radiate, or spread, into the shoulder blade or down the arm. Patients may have an arm complaint (such as pain or weakness), as the result of nerve root compression from a bone spur.



The image above is a general illustration of the spine and is not an exact replica of the cervical spine.

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.

Diagnosing the Problem

When a patient with a degenerative disorder of the cervical spine is examined by a doctor, 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)

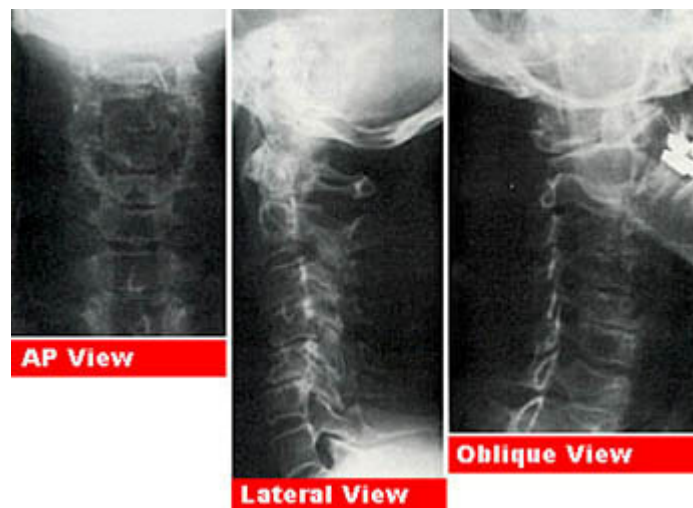


Fig.1: x-ray views of cervical vertebrae

Computed Tomography

Magnetic Resonance

Myelogram/CT

Discography

Treatment Options

After the doctor has conducted 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.

Non-operative Treatment

Non-operative treatment of cervical degenerative disease provides good to excellent results in over 75% of patients. A multidisciplinary approach includes:

- Injections – anti-inflammatory medications can be injected under x-ray visualization directly into the regions that are the source of the pain
- Physical therapy 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 non-steroidal anti-inflammatories, and muscle relaxants. In majority of cases, non-operative treatment can provide good long-term results.

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

Conclusion

Cervical spine degenerative disorders can be diagnosed more accurately and treated more effectively today than even five or ten years ago. Under the guidance and treatment of an expert medical team, most patients can now hope to see a very significant improvement in their condition.