Cervical stenosis

This refers to narrowing of the spinal canal in the neck and is usually as a result of degenerative (wear and tear) changes that occur with age. Other rarer causes include inflammatory arthritis, trauma, tumours, previous surgery and congenital anomalies.

The spinal cord runs through the spinal canal in the middle of the spinal column in the neck and gives off nerve branches to the upper limbs. Depending on the level and degree of stenosis (narrowing) then this can cause various symptoms.

Any pressure on the spinal cord can give a mixture of symptoms beyond this and if the compression is bad enough and prolonged then 'myelopathy' may develop which can be thought of as damage to the spinal cord itself. If the compression affects a nerve as it leaves the neck and goes into the arm then the symptoms may simply relate to this (see arm pain sheet) or there can be a combination of the two.

History

The problem may have occurred over a period of time or come on acutely. If there is simply nerve root compression then patients may complain of symptoms relating to that nerve in the upper limbs – tingling, pain, weakness, numbness. If there is cord compression then gait may be affected or there may be weakness in the lower limbs with possible loss of bladder control (rare). As this often occurs in the more elderly patients it is important to consider other medical problems as well as what treatment has been tried already.

Examination

A full general examination is mandatory together with a full neurological assessment and vascular check. Often the neck may be stiff or painful and deformity may be evident. Special tests to test for the presence of myelopathy should be performed

Investigation

Plain radiographs and MRI are essential. CT will show bony anatomy clearly and flexion extension views will help rule out any instability. Sometimes, nerve blocks can be organised for diagnostic purposes. Vascular studies may be indicated pre-operatively to assess the carotid artery and nerve conduction studies will help rule out any problem causing the symptoms beyond the spine in the limbs.

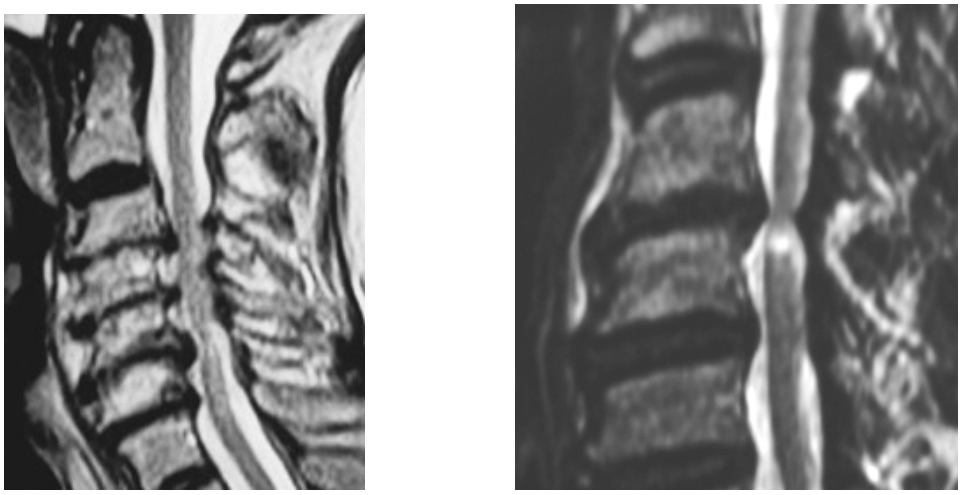

Figure – 2 examples of cervical stenosis. On the left it is multi- level with no high signal (myelopathy in cord) and on the right there is high signal at one level only

Treatment

This of course depends on the exact nature of the problem. Once myelopathy is established then reversal cannot be guaranteed by treatment although often does occur. One of the main aims of treatment in the myelopathic patient is to prevent deterioration.
Non-operative treatments can be pursued in cases where myelopathy is not present but if they do not help then surgery can be offered. In the presence of recent onset or deteriorating myelopathy then surgery is usually offered – depending on the individual.

The aim of surgery is to take the pressure off the cord and/or spinal nerves without damaging the integrity of the spine. Often, fusion or an equivalent is required to supplement this.

Briefly, options include

1. Anterior cervical discectomy +/- fusion/replacement (at 1 or more levels)
2. Posterior decompression +/- fusion at 1 or more levels
3. Laminoplasty – to make space for the cord
4. More extensive anterior/combined procedures e.g. corpectomy/troughs

More can be found on the details of these on the treatment page.