Cervical spinal stenosis clinical features

Cervical spinal stenosis can change how the spinal cord functions and cause pain, stiffness, numbness, or weakness in the neck, arms, and legs. It can also affect the control of bowels and bladder.

Many people older than age 50 have some narrowing of the spinal canal but do not have symptoms. Cervical spinal stenosis does not cause symptoms unless the spinal cord or nerves becomes squeezed. Symptoms usually develop gradually over a long period of time.

Balance and coordination problems, such as shuffling or tripping while walking. Cervical spinal stenosis can be crippling if the spinal cord is damaged.

Loss of bowel or bladder control (incontinence).

detrusor hyperactivity or underactivity may occur depending on whether the involvement of the micturition neural axis is compression of the inhibitory reticulospinal tracts or myelopathy involving the posterior funiculus

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Patients with degenerative cervical myelopathy may initially experience minimal symptoms [1) 2)] but subsequently often develop pain, sensory deficits especially affecting their hands and foot, spasticity, imbalance, bladder symptoms, and experience frequent falls [3)].

Diagnosing DCSM has traditionally relied on presence of clinical symptoms, including clumsy hands, paralysis of the lower extremities, gait disturbances, urinary/bowel incontinence and severe neurological dysfunction disturbances. [4) 5)].

Many people with cervical spondylosis or CSM are asymptomatic. However, patients with CSM are at higher risk of spinal cord injury (SCI) following minor injury.

Only a small percentage of people with spondylosis go on to develop symptoms consistent with cervical spondylotic myelopathy (CSM), which can cause significant and disabling neurological deficits, leading to loss of function, morbidity, and mortality.

In addition, diabetes mellitus (DM) is a frequent comorbidity for people of this age and may impact the severity of CCM.

Pain

Pain is commonly identifiable in large areas of the body, is frequently moderate to severe in intensity and impacts quality of life and severity of myelopathy in a cohort of individuals with myelopathy who have pain [6)].

Gait disturbances

There is evidence that people with CSM have a slower gait speed, prolonged double support duration and reduced cadence compared to healthy controls [7) 8) 9) 10)].

At self-selected speed, the CSM group walked significantly more slowly, with shorter stride lengths and longer double support duration. They showed significant decreases in several kinematic and kinetic parameters, including sagittal range of motion at the hip and knee, ankle plantarflexion, anteroposterior ground reaction force (GRF) at toe-off, power absorption at the knee in loading response and terminal stance, and power generation at the ankle. At matched speed, the CSM group showed significant decreases in knee flexion during swing, total sagittal knee range of motion, peak ankle plantarflexion and anteroposterior GRF.

Conclusion and implications: The findings suggested that people with CSM have significant gait abnormalities that have not been previously reported. In particular, there are key differences in the motor strategies used in the terminal stance phase of gait that cannot be explained by speed alone [11)]

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