Anterior spinal artery syndrome

Anterior spinal artery syndrome, occurs when blood flow is reduced or interrupted in the anterior spinal artery that runs along the anterior (front) portion of the spinal cord. This interruption in blood flow may be the result of bone fragments from traumatic injury to the vertebra, spinal disc herniations or flexion/compression injury. Damage to the aorta may also be a cause of anterior cord syndrome due to the interruption of blood flow from vascular branches from the aorta supplying the anterior spinal artery.

Symptoms of anterior spinal cord syndrome are normally complete loss of muscle strength below the level of injury due to damage to the anterior 2/3 of the spinal cord containing descending motor fibres in the corticospinal tract. Because other ascending sensory fibres are located in the remaining 1/3 of the posterior area of the spinal cord supplied by the posterior spinal artery, sensory loss is incomplete. In most patients sensitivity to pain and temperature are lost whilst sensitivity to touch and proprioception (joint position) are preserved.

Is there any treatment?

Once damage to the spinal cord has occurred resulting in anterior cord syndrome, there is usually no cure.

What is the prognosis?

Anterior cord syndrome prognosis is good if recovery is evident and progressive during first 24 hours. If no signs of sacral sensibility to pinprick or temp are present after 24 hours, prognosis for further functional recovery is poor. Only 10 to 15% of patients demonstrate functional recovery.

Case report

previously healthy 31-year-old man was diagnosed with acute ASAS with cervical spondylosis. Neurological examination revealed four-limb weakness predominant in the distal part of the upper limbs and superficial sensory impairment below the cervical region. T2-weighted images on MRI showed an area of hyperintensity in the gray matter of the cervical cord from C3 to C5 with a disc herniation at the C4,5 vertebral level. CTA demonstrated that ASA was occluded at level C4,5 , which coincided with the location of disc herniation. Anterior spinal cord decompression and fusions were performed. The patient tolerated the procedure well and had complete resolution of his exertionally dependent myelopathic symptoms 1 week later. In conclusion, although ASAS with cervical spondylosis is rare, it can be diagnosed based on clinical symptoms and MRI and identified by CTA of ASA. A good neurological prognosis is anticipated after anterior spinal cord decompression and fusion is performed if disc herniation is responsible for ASA occlusion ¹⁾.

1)

Peng T, Zhang ZF. Anterior Spinal Artery Syndrome in a Patient with Cervical Spondylosis Demonstrated by CT Angiography. Orthop Surg. 2019 Nov 3. doi: 10.1111/os.12555. [Epub ahead of print] PubMed PMID: 31680448. Last update: 2024/06/07 02:49 anterior_spinal_artery_syndrome https://neurosurgerywiki.com/wiki/doku.php?id=anterior_spinal_artery_syndrome

From: https://neurosurgerywiki.com/wiki/ - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=anterior_spinal_artery_syndrome



Last update: 2024/06/07 02:49