Cervical Spondylotic Myelopathy in Later Pregnancy: A Case Report

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Introduction

Cervical spondylotic myelopathy (CSM) is a degenerative disease of the spine, the most common cause of spinal cord dysfunction worldwide [1]. Usually encountered in older patients, it may lead to myelopathic and/or radiculopathic syndromes, especially in men [2]. Cervical myelopathy in young women is uncommon; recently diagnosed and with rapid and severe onset, it is extremely rare in pregnancy. The literature contains a plethora of information on the obstetric management of patients with pre-existing spinal cord injury but little has been published on the management of the pregnant patient with acute compressive spinal cord myelopathy [3]. This contribution presents the possibly unique case of 38-year old woman at 26-weeks of gestation, presenting with acute paraparesis, clumsy hands and quadruhyperreflexia.

Case Report

An elderly parturient woman in the 26th-week of gestation was admitted to the University Hospital Brno with acute walking problems and clumsy hands syndrome. There was no history of trauma or infection and there were no other obvious risk factors for cervical myelopathy. Neurological examination revealed quadruhyperreflexia, clumsy hands, and severe spastic paraparesis. No sensory loss was evident, the modified Japanese Orthopaedic Association score (mJOA) totalled 10 (3+4+0+3). Laboratory test, cranial MRI and lumbar puncture were negative. Cervical spine MRI showed severe cervical spine stenosis due to C5-C6 central and left paramedial disc herniation and sign of cord compression. Our orthopaedic surgeons indicated their preference for a delayed operation, after delivery. However, the walking difficulty was quite severe, even deteriorating, so after consultation with neurosurgeon, an obstetrics specialist and anaesthesiologist, the decision was taken to operate. The procedure took place with the patient in supine position. General anaesthesia was induced with propofol, midazolam, sufentanil and cisatricurium, as maintaining the benefits of interbody cages with anterior plating. The posterior approach is taken in approximately one in ten cases, particularly in combined stenosis in more than three segments. Bone autografts or allografts, intervertebral cages, devices have been developed, with the aim of reducing the morbidity associated with traditional cervical anterior plating, at the same time as maintaining the benefits of interbody cages with anterior plating. The posterior approach is taken in approximately one in ten cases, particularly in combined stenosis in more than three segments. However both approaches could contribute to the achievement of sufficient decompression of the spinal cord to improve clinical outcomes in CSM patients [14].

Discussion

Acute onset of myelopathic symptoms rising out of cervical disc herniation during gravidity is very rare. No similar case was disclosed by our literature search and no clear protocol has been established for this situation [4]. In the course of diagnostic work-up, we employed MRI to demonstrate spinal cord pathology. Patients with CSM may present with hyperintensities on T2-weighted MRI. This high intensity signal depends on the impact of outer forces and their duration, which may also relate, to disease prognosis for surgical candidates [5,6]. However, it has also been noted that the presence or absence of a high intensity area does not correlate with the severity of myelopathy or with surgical outcomes [7].

Surgical treatment of spinal diseases during pregnancy presents a particular clinical challenge. Only a few case reports addressing the operative management of spinal diseases in pregnant patients have been published, largely covering herniation of intervertebral lumbar disc, vertebral haemangioma and trauma of cervical spine [8-12]. The absolute indications for discectomy during pregnancy are the same as for any other patient - cauda equina syndrome, or progressive neurologic deficit, which may result presumably in permanent sequelae. Certain authors recommend observation for symptomatic patients at any stage over 32 weeks of gestation and surgery should be considered for patients with severe neurological deficits at less than 32 weeks of gestation [10]. Various approaches have been applied to decompressive surgery of the cervical spine, among them multilevel discectomy, corpectomy, laminectomy with/without fusion and laminoplasty [13]. Anterior cervical discectomy and fusion (ACDF) is currently considered the golden standard, indicated for lesion in 1 - 3 segments. Bone autografts or allografts, intervertebral cages, with or without additional anterior cervical plates are used to replace the intervertebral disc. In recent years, zero-profile, stand-alone devices have been developed, with the aim of reducing the morbidity associated with traditional cervical anterior plating, at the same time as maintaining the benefits of interbody cages with anterior plating. The posterior approach is taken in approximately one in ten cases, particularly in combined stenosis in more than three segments. However both approaches could contribute to the achievement of sufficient decompression of the spinal cord to improve clinical outcomes in CSM patients [14].

References