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INTRODUCTION

Anterior cervical discectomy and fusion (ACDF) is a frequent intervention in spine surgery. Neurologic worsening, vocal cord paralysis and Horner syndrome are among the known complications. Here we describe the first case of a sulcal artery syndrome after such an intervention.

METHODS

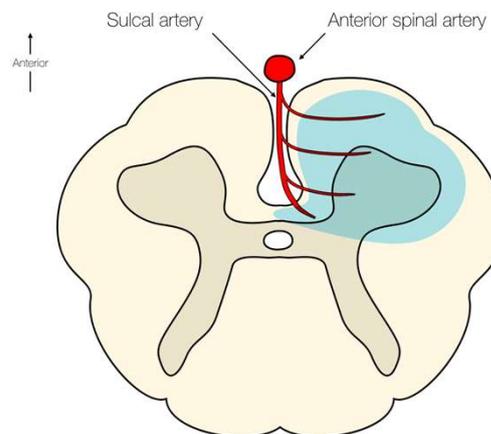
We report the case of a 47-year-old woman who underwent ACDF with plating from C3 to C5 for degenerative cervical disc disease. Intra-operatively, while the C4/C5 cage was positioned, a sudden loss of MEPs on the right side was noted while SSEPs stayed unaltered. Thorough inspection did not show any neural compression or vascular damage. After an uneventful immediate post-operative time, the patient developed a progressive anesthesia on the right side with a sensory level at Th3, associated with impaired hot/cold discrimination about 7h after the surgery. On the left side, a slight hemiparesis with strength M4/5 was noted. Two days later, the symptoms worsened with stinging sensations and hypoesthesia in the territory of the right maxillary nerve.

RESULTS

A CT-scan showed no displacement of the implant and no hematoma. The MRI of the brain and cervical spine showed a spinal cord ischemia at the level of C3-C4, in the territory of the sulcal artery. Oral steroids & acetylsalicylic acid were started. After worsening of the symptoms, another MRI showed a progression of the edema, potentially involving the caudal part of the spinal nucleus of the trigeminal nerve. We raised the dosage of steroids, which successfully ameliorated the facial symptom of the patient. At one year after the intervention there is residual impairment of hot/cold discrimination and position sense in the right side of the body.

CONCLUSION

We report the first case to our knowledge of sulcal artery syndrome after ACDF with the clinical correlate of an incomplete Brown-Séquard syndrome. No evidence of direct damage to the spinal cord was found. The probable cause is vessel occlusion, but the exact mechanism cannot be ascertained. In these circumstances, even though the prognosis is mostly favorable, further work-up in search of possible vascular pathology (arteriosclerosis, dissection) and/or hypercoagulable states may be warranted.



Sulcal artery syndrome

Image courtesy of AssocProf Frank Gaillard, Radiopaedia.org, rID: 44702

