

Cervical Disc Replacement Meets Fusion: A Case Report on the CDR-ACDF Hybrid Surgery

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INTRODUCTION:

Anterior cervical discectomy fusion (ACDF) is a standard surgical treatment for cervical degenerative disc disease (CDDD) due to its proven effectiveness. However, it may lead to biomechanical changes in adjacent segments, potentially causing accelerated adjacent segment degeneration (ASD). Cervical disc replacement (CDR) is emerging as an alternative, aiming to preserve the range of motion and reduce ASD risk. A hybrid surgery approach, combining CDR and ACDF principles, has evolved. We present a case of a 40-year-old woman who underwent successful two-level CDR-ACDF hybrid surgery, highlighting its potential benefits and the importance of tailored treatment strategies.

REPORT:

A 40-year-old woman presented with 8 years of neck pain and radiculopathy in both upper limbs, along with clumsiness, fine motor difficulties, and occasional gait instability. No urinary or bowel incontinence was reported. Neck pain worsened with flexion but improved with rest and pain relief.

Examination showed reduced sensation over C4/C5 dermatomes bilaterally, hyperreflexia at C4/C5, and positive Lhermitte and Spurling tests. Imaging confirmed cervical disc herniation at multiple levels. A 2-level hybrid surgery was performed, involving CDR at C5/C6 and ACDF at C6/C7.

Post-surgery, the patient reported no radiculopathy or neck pain, with some residual numbness. Follow-up revealed satisfactory results, and the patient expressed satisfaction with the outcome.

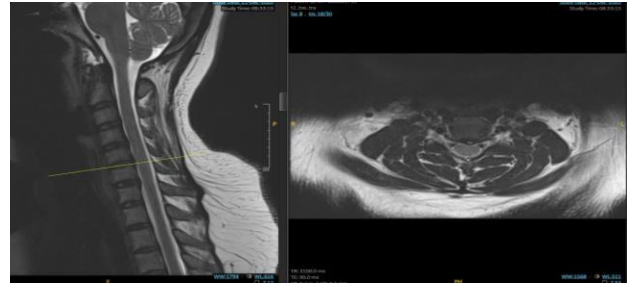


Figure 1



Figure 2



Figure 3

CONCLUSION:

In conclusion, CDR-ACDF hybrid surgery represents a promising addition to the range of treatments for cervical disc pathologies. This novel approach combines the benefits of motion preservation with structural stability, emphasizing the importance of personalized care aligned with patient goals. The case report highlights the potential advantages of hybrid surgery, contributing to the evolving landscape of spinal interventions.

REFERENCES:

1. Chen, S., Deng, Y., Liu, H. et al. Cervical sagittal balance after consecutive three-level hybrid surgery versus anterior cervical discectomy and fusion: radiological results from a single-center experience. *J Orthop Surg Res* 18, 345 (2023).