

Comparison of an ACDF and TDR-C Between an Ambulatory Surgery Center and Inpatient Hospital Setting Stefan Prada MD; Michael Weiss MD; M. Perry; Stephen Songhurst; chip Wade PhD; Reginald J. Davis MD, FAANS, FACS

Introduction

Anterior cervical discectomy and fusion (ACDF) is the standard of care for patients with cervical spondylotic myeloradiculopathy (CSM). However, high postoperative rates of adjacent segment disease led to the development of an alternative, motion preserving treatment for CSM: the total cervical disc replacement (TDR-C). This study compares outcomes from ACDFs and TDR-Cs performed in ambulatory surgery centers (ASC) and hospitals.

Methods

From January 2013 to September 2016, 163 patients underwent minimally invasive surgery (MIS) via ACDF (n=147, 54.3 years [range 27-76]) or TDR-C (n=16, 41.2 years [range 29-60]) in an ASC. Concurrently, an age and gender matched sample of ACDFs (n=294) and TDR-Cs (n=32) occurred in a hospital. Estimated blood loss (EBL), complications, length of surgery (LOS), return to work (RTW), visual analog scale (VAS) and neck disability index (NDI) were collected.

Results

The average EBL and LOS for ACDFs were less in the ASC (49.3mL and 119 minutes, respectively) than the hospital (58.2mL and 152 minutes, respectively). The average EBL and LOS for TDR-Cs were less in the ASC (40.1mL and 118 minutes, respectively) than the hospital (61.12mL and 163 minutes, respectively). The ?VAS for ACDFs was greater in the ASC (2.99) than the hospital (2.61). The ?VAS for TDR-Cs was greater in the ASC (3.82) than the hospital (3.11). The ?NDI for ACDFs was greater in the ASC (20.63) than the hospital (19.64). The ?NDI for TDR-Cs was greater in the ASC (22.94) than the hospital (21.63). The RTW for ACDFs was less in the ASC (1.31 months) than the hospital (3.16 months). The RTW for TDR-Cs was less in the ASC (1.24 months) than the hospital (2.87 months). There were five ACDF complications (ASC n=2, hospital n=3) and zero TDR-C complications.

Conclusions

MIS-ACDFs and MIS-TDR-Cs performed in an ASC are safe and effective, producing greater outcomes than similar hospital procedures.

Learning Objectives

Describe the differences in outcomes between an ASC and Hospital setting
Compare outcomes of different surgery types for the treatment

of cervical spondylotic myeloradiculopathy (CSM)