

The Use of Immediate PACU Radiographs after Anterior Cervical Discectomy and Fusion: A Retrospective Review of 1009 Cases in a Single Institution

Asham Khan MD; Joshua Meyers MD; Paul J Blasio BS; Evan Winograd MD; Samantha Yavorek; Kenneth Vincent Snyder MD, PhD; Vassilios Georgios Dimopoulos MD; John Pollina MD

Introduction

ACDF is a commonly performed procedure for degenerative conditions of the cervical spine. Postoperative hematoma and airway compromise is a life threatening complication. In this study we aim to determine whether an immediate PACU radiograph plays a role in early detection of such complications.

Methods

We reviewed the charts of 1009 patients that underwent an ACDF between September 2013 and February 2017. Patients were categorized into 2 groups, those receiving a PACU radiograph and those who did not. Data collected for this study included patients’ demographics, BMI, smoking, prior neck surgeries, co-morbidities, diagnosis, ASA class, operation level (s), blood loss, intraoperative steroids administration, reintubation, re-operation, length of stay, mortality and number of radiographs, and associated costs for postoperative radiographs and length of hospital stay.

Results

A total of 815 patients were included into our analysis, 558 (68.5%) had a PACU radiograph while 257 (31.5%) did not. We found no statistically significant results with regards to reoperation (p 0.92), reintubation (p 0.94), and mortality (p 0.49) between the two groups. Lengths of stay in patients who received a PACU radiograph were 1.6 ± 2.1 versus 1.1 ± 3.3 days in patients who didn’t (p 0.01). With the average length of stay and radiograph use we estimate that patients who received a PACU radiograph postoperatively cost \$558,950.53 while patients who did not receive one cost \$158,808.01, adding to expenditure by \$400,142.53 over 42 months. Per patient cost was \$947.94± 1181.4 for the PACU radiograph group while it was \$617.93 ± 1863.1 (p 0.009) for the other group.

Conclusions

Our data did not reveal differences in reoperation, reintubation or mortality between the two groups; however cases where PACU radiograph was obtained were associated with longer length of stay and increased healthcare expenses. Further studies are warranted to validate these results.

Learning Objectives

By the conclusion of this session we hope to portray that:

- 1) no clinical benefit of obtaining a PACU radiograph post ACDF. As clinical signs and symptoms drive management.
- 2) There is a role of obtaining PACU radiographs in terms of educational purposes and perhaps medicolegal