

Introduction

Frailty assessment is a burgeoning area of interest and its usefulness for predicting outcomes has been examined for major surgical procedures. However its impact on outcome of patients undergoing stereotactic radiosurgery (SRS) has not yet been evaluated. Employing a national database, we sought to examine the impact of frailty on outcome of patients undergoing SRS.

Methods

All patients who underwent inpatient procedures of SRS were identified from the Nationwide Inpatient Sample database 2001-2010 using ICD-9-CM codes. Frailty assessment employed the validated Johns Hopkins Adjusted Clinical Groups indicator. Standard descriptive techniques and matched propensity score analyses adjusted for multiple confounders examined outcomes.

Results

Among 37,973 cases, frailty was present in 3.08%. The mean age for frail versus non-frail patients was 60.02 years (SD±18.39) vs. 56.63 years (SD±18.05), ($p<0.001$). Frail patients were more likely to possess Medicare/Medicaid insurance ($p<0.001$), lower median income ($p<0.001$), and have higher comorbidity ($p<0.001$). Most SRS procedures occurred at teaching hospitals (85.39%), large bed-size hospitals (72.94%), in urban areas (96.50%), and in the North-east (39.07%). The commonest indication for SRS was secondary brain metastases (33.35%), and the commonest SRS modality utilized was multi-source photon (gamma knife) in 53.28%.

Overall mortality was 0.82%. Frail patients demonstrated significantly higher mortality (3.10% vs. 0.75%, $p<0.001$) and were more likely for non-routine discharges (61.95% vs. 23.84%, $p<0.001$). There was a higher incidence of neurologic complications among frail patients (3.30% vs. 1.04%, $p<0.001$).

The mean total charge associated with SRS was \$54,942.24

Learning Objectives

To highlight risk factors useful for pre-operative assessment and evaluation of patients undergoing stereotactic radiosurgery procedures.

References