

Complications Associated with Prolonged Length of Stay After Surgery for Metastatic Spinal Tumors.

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Introduction

Metastatic disease to the spine constitutes an increasing problem in healthcare due to the morbidity associated with its course and treatment, as well as the sequelae derived from the latter. With concern for the increasing cost of healthcare, the identification of factors associated with prolonged length of stay (PLOS), and its consequences have gained extreme relevance in the management of this subset of patients. The objective of this study is to determine factors that lead to complications associated with prolonged length of stay in patients that underwent surgery for resection of spinal metastasis.

Methods

For this case-control study the United States Nationwide Inpatient Sample (NIS) database was queried from 2002 to 2011. Inclusion criteria were patients who underwent surgery for a metastatic spinal tumor derived from primary lung, breast, kidney, prostate, colorectal, liver, or thyroid cancer. Multiple logistic regression analyses were used to identify predictors of PLOS.

Results

PLOS was defined as an inpatient stay over 14 days post-operatively (19.7% of 5,116 patients). Patients in the PLOS group were slightly younger as compared to the non-PLOS ($p < 0.018$). Statistical significance was observed with primary tumor locations (i.e., histology), proportion of patients with pathological fracture, presence of visceral metastasis, proportion of patients who underwent internal fixation, and proportion of patients who required transfusion between the PLOS and the non-PLOS groups ($p < 0.001$). The complication rate was higher in the PLOS group with higher incidence of pleurisy/pneumothorax/pulmonary collapse, adult respiratory distress syndrome, pneumonia, unplanned intubation, acute renal failure, sepsis, pulmonary embolism, and delirium ($p < 0.001$). Average total hospital charges for patients with PLOS were $\$232,123 \pm 163,851$ compared to $\$116,667 \pm 92,701$ for patients who did not experience PLOS ($p < 0.001$).

Conclusions

Patients with prolonged length of stay may have a higher risk of developing postoperative complications including pneumonia, unplanned intubation, sepsis, pulmonary embolism, and delirium.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Identify complications associated with prolonged length of stay after surgery for metastatic spine tumors; 2) Describe the presentation of patients with a prolonged length of stay.

References