Preoperative Nutritional Status is an Independent Predictor of 30-day Hospital Readmission After Elective Spine Surgery.

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Abstract

STUDY DESIGN:

A retrospective cohort review.

OBJECTIVE:

The aim of this study is to investigate whether preoperative malnutrition is an independent risk factor for unplanned 30-day readmission after elective spine surgery.

SUMMARY OF BACKGROUND DATA:

Thirty-day hospital readmission rate is being used as a proxy for quality of care. Accordingly, hospitals and health systems are investing considerable resources into the identification of patients at risk of hospital readmission and designing interventions to reduce the rate of hospital readmissions.

METHODS:

The medical records of 145 patients undergoing elective spine surgery at a major academic medical center were reviewed. Preoperative serum albumin level was assessed on all patients and used to quantify nutritional status. Albumin less than 3.5g/dL was recognized malnourished. Patient demographics, comorbidities, and postoperative complication rates were collected. The association between preoperative serum albumin level and 30-day readmission rate was assessed via multivariate logistic regression analysis.

RESULTS:

Baseline characteristics were similar between both groups. Low albumin was found in 28% of patients in this study. Malnourished patients were more likely to experience a postoperative complication and a prolonged duration of hospital stay (3.80 vs. 8.67 days), P=0.03. Overall, 14.48% of patients were readmitted within 30 days of discharge, with malnourished patients experiencing a three-fold increase in 30-day readmission rates (malnourished: 27.50% vs. nourished: 9.52%, P=0.02). Binary logistic regression with and without propensity score adjustment for risk factors demonstrated that preoperative malnutrition (low serum albumin level) is an independent predictor of 30-day readmission after elective spine surgery (P=0.01).

CONCLUSION:

Pre-operative malnutrition is an independent risk factor for readmission within 30 days of discharge after elective spine surgery. Laboratory markers of nutrition can identify patients at risk of unplanned hospital readmission. This risk determination identifies a potentially modifiable risk factor for early readmission.

LEVEL OF EVIDENCE: 3.