



Prealbumin as a Predictor for Post-Operative Infection Risk in Spine Sugery

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Introduction

Nutritional status is increasingly being recognized as an important component of a patient’s overall management in a variety of medical contexts (1-9). In the surgical fields, there is increasing evidence that clinical endpoints such as infection risk, duration of hospital stay and surgical efficacy can be affected by a patient’s pre-operative nutritional status. Excepting several studies linking albumin to surgical risk in spine surgery, little work has been performed in the field of neurosurgery in this regard (10-11). Therefore, the purpose of this study is to evaluate pre-operative serum prealbumin levels, the currently preferred serum biomarker of nutritional deficiency, in relation to the risk of developing a post-operative infection.

Methods

This study was conducted as a retrospective case control series and patients were identified by querying our department’s billing codes for deep wound washouts from 2009-2012. A cohort of 32 patients undergoing spine surgery with pre-operative prealbumin levels and that developed post operative deep tissue infections was identified. Additionally, a case control cohort of 74 patients that did not experience post operative infection was assembled for comparison. A number of clinical variables were collected, and a multivariate cox regression was performed to analyze for risk factors significant for predicting infection risk.

Results

Two variables: pre-op prealbumin < 20 and diabetes were both statistically significant predictors for the risk of developing a post op infection with HR’s of 2.65 (p = 0.027) and 2.72 (p = 0.023), respectively.

Conclusions

Our results further reinforce the importance of nutritional status prior to undergoing spine and indicate that pre-operative pre-albumin levels may be a useful tool for risk stratifying patients. Nonetheless, further study is needed to determine whether nutritional supplementation regimens might reverse this increased risk of developing an infection.

References

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Learning Objectives

By reading this presentation, participants should be able to understand the association between pre-operative prealbumin levels and postoperative infection risk