

Factors Associated with Deep Surgical site Infection Following Spinal Surgery: a Pilot Study

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Abstract

Introduction

Surgical site infection (SSI) is the most common healthcare-related infection in surgical patients. Patients who have undergone spinal surgeries and have contracted postoperative SSI face increased morbidity and mortality, which invariably leads to additional burden on the healthcare system and higher costs. The risk factors for the increase in SSI in patients who have undergone spinal surgery have been investigated in numerous studies but no studies have been performed in Malaysia. The aim of this pilot study is to determine the incidence and factors associated with deep SSIs in patients that have undergone spinal surgeries.

Methods

This retrospective study includes all patients who underwent spinal surgeries at Tengku Ampuan Afzan Hospital, Kuantan, from 1 January 2016 to 31 December 2017. Patients with an active spinal infection, polytrauma, and open fractures were excluded from this study. Patient characteristics and laboratory investigations were extracted to determine the risk factors for deep SSI events. Associations between SSI and risk factors were analyzed with SPSS V21.0 (IBM, Armonk, NY).

Results

The univariate analysis indicated that fracture dislocation at the thoraco-lumbar junction ($p=0.008$) and a history of preoperative blood product transfusion ($p=0.003$) were associated with deep SSI. Other factors such as age ($p=0.162$), gender ($p=0.262$), body mass index ($p=0.215$), smoking status (0.272), number of vertebrae involved in the surgery ($p=0.837$), spinal cord involvement ($p=0.259$), postoperative hemoglobin reduction ($p=0.816$), and preoperative white blood cell count ($p=0.278$) were not associated with deep SSI.

Conclusions

This pilot study highlights the factors associated with deep SSI in spinal surgeries. A larger study is needed to further confirm these findings.

Keywords

Author Keywords: [surgical site infections](#); [spinal surgery](#); [postoperative infection](#); [thoraco-lumbar](#); [orthopaedic surgery](#)

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