

## Risk Factors for Postoperative Fever in Patients Undergoing Lumbar Fusion

**Authors :** Bang Haeyong

**Abstract :** Purpose: The objectives of this study were to determine the prevalence, incidence, and risk factors for postoperative fever after lumbar fusion. Methods: This study was a retrospective chart review of 291 patients who underwent lumbar fusion between March 2015 and February 2016 at the Asan Medical Center. Information was extracted from electronic medical records. Postoperative fever was measured at  $T_{max} > 37.7^{\circ}\text{C}$  and  $T_{max} > 38.3^{\circ}\text{C}$ . The presence of postoperative fever, blood culture, urinary excretion, and/or chest x-ray were evaluated. Patients were evaluated for infection after lumbar fusion. Results: We found 222 patients (76.3%) had a postoperative temperature of  $37.7^{\circ}\text{C}$ , and 162 patients (55.7%) had a postoperative temperature of  $38.3^{\circ}\text{C}$  or higher. The percentage of febrile patients trended down following the mean 1.8 days (from the first postoperative day to seventh postoperative day). Infection rate was 9 patients (3.1%), respiratory virus (1.7%), urinary tract infection (0.3%), phlebitis (0.3%), and surgical site infection (1.4%). There was no correlation between  $T_{max} > 37.7^{\circ}\text{C}$  or  $T_{max} > 38.3^{\circ}\text{C}$ , and timing of fever, positive blood or urine cultures, pneumonia, or surgical site infection. Risk factors for increased postoperative fever following surgery were confirmed to be delay of defecation ( $\text{OR}=1.37$ ,  $p=.046$ ), and shorten of remove drainage ( $\text{OR}=0.66$ ,  $p=.037$ ). Conclusions: The incidence of fever was 76.3% after lumbar fusion and the drainage time was faster in the case of fever. It was thought that the bleeding was absorbed at the operation site and fever occurred. The prevalence of febrile septicemia was higher in patients with long bowel movements before surgery than after surgery. Clinical symptoms should be considered because postoperative fever cannot be determined by fever alone because fever and infection are not significant.

**Keywords :** lumbar surgery, fever, postoperative, risk factor

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