

論 文 要 旨

Effect of perioperative oral management on postoperative complications of heart valve surgery

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【Introduction】

Epidemiological evidence regarding perioperative oral management (POM) for cancer surgery has been accumulated, but this evidence is not sufficient for cardiac surgery. There is a well-known relationship between oral hygiene and infective endocarditis. The effect of POM on the prevention of postoperative complications remains unclear in cardiac surgery. In this study, exploratory factor analysis was performed to examine whether a lack of POM was associated with postoperative complications of heart valve surgery. In addition, we investigated whether POM can prevent postoperative complications in patients undergoing heart valve surgery.

【Subjects and Methods】

First, using the medical records of Kagoshima University Hospital, we retrospectively enrolled 365 patients who underwent heart valve surgery between April 1, 2010, and March 31, 2019. We extracted data on patient characteristics and set postoperative pneumonia (PP) and postoperative bloodstream infection (PBSI) as outcomes. A logistic regression analysis was performed to examine the effect of factors on the incidence of postoperative complications. Next, we retrospectively enrolled 301 patients, excluding 64 patients who underwent emergency surgery. Subjects were divided into two groups (POM group and control group) and the background was adjusted by the propensity score (PS). We then analyzed the impact of POM on PBSI, PP, and mortality using PS inverse probability of treatment weighting (IPTW).

【Results】

Significant risk factors for PP included dialysis, long operative time, and long-term intubation. Similarly, risk factors for PBSI were long-term intubation and lack of POM. Subsequently, we identified the risk factors for long-term intubation, which were common to both complications, and found they were emergency status, combined valvular disease, long operative time, and lack of POM. Regarding the effect of POM on the prevention of postoperative complications, IPTW revealed that the POM group had a lower incidence of PBSI than the control group, with an odds ratio of 0.316 ($P = 0.003$). The mortality in the POM group was significantly lower than that in the control group ($P = 0.023$).

【Discussion】

We demonstrated that a lack of POM could be a risk factor for PBSI and long-term intubation in heart valve surgery. In addition, POM was significantly associated with decreased incidence of PBSI and mortality. These results suggest that POM is beneficial for the prevention of postoperative complications in patients undergoing heart valve surgery.