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Simultaneous Anesthetic Depth Monitoring Using Noxious Stimulation Response Index and Bispectral Index: A Preliminary Report of a Prospective Observational Study in Clinical Settings

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要約：

Introduction: Anesthetic depth monitors, such as the bispectral index (BIS) monitor, are based on the analyses of electroencephalogram. SmartPilot View, another type of anesthetic depth monitor, calculates the effect-site concentration of anesthetics based on pharmacokinetic/pharmacodynamic simulations, computes the pharmacodynamic interaction between hypnotics and opioids, and displays the noxious stimulation response index (NSRI). NSRI is, thus, completely different from BIS as an anesthetic depth index. This study aimed to elucidate the predictability of BIS from NSRI.

Methods: We recorded the BIS values when the NSRI values ranged from 0 to 20, 21 to 50, 50 to 70, 71 to 90, and 91 to 100 in patients under desflurane/opioid anesthesia (group D, n = 20) and those under propofol/opioid anesthesia (group P, n = 20). We examined the predictability of BIS from NSRI using linear regression analysis.

Results: In both groups, linear regression analysis demonstrated the difficulty in the prediction of BIS from NSRI. Many patients in both groups showed a BIS value of 60 or less when the NSRI values ranged from 71 to 100 and a BIS value of less than 40 when the NSRI values ranged from 0 to 20.

Conclusions: It is difficult to predict BIS from NSRI, and the observed discrepancies between NSRI and BIS suggest that simultaneous monitoring of NSRI and BIS might have clinical utility in guiding appropriate anesthetic depth.

KEYWORDS: SmartPilot View, effect-site concentration, pharmacokinetic/pharmacodynamic simulation, bispectral index monitor, electroencephalogram

A Case of Inguinal Bladder Hernia Treated with Laparoscopic Transabdominal Preperitoneal Repair

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要約：

Inguinal bladder hernia (IBH) is a rare condition, and only a few reports have performed laparoscopic surgery. In this study, a 58-year-old man with a right inguinal bulge for 5 years was diagnosed with right inguinal hernia by a local doctor. He presented to our emergency department with right inguinal hernia incarceration. Computed tomography scan revealed a right inguinal hernia containing a portion of the urinary bladder. Thus, manual reduction of the bladder hernia was performed, and the patient was admitted to the surgical ward for follow-up and was discharged the next day. On the 19th day after discharge, transabdominal preperitoneal (TAPP) repair was performed. He was discharged on postoperative day 2 and had an uneventful postoperative course. Herein, we report a case of IBH treated using the TAPP method to understand the anatomy and safely perform the surgery without bladder injury.

KEYWORDS: inguinal bladder hernia, laparoscopy, transabdominal preperitoneal repair