

Unusual elevation in Entropy but not in PSI during general anesthesia: a case report.

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BACKGROUND: EEG monitoring is useful for determining an adequate level of anesthesia. However it is sometimes interfered by various reasons. We describe a case in which we successfully confirmed the adequate depth of anesthesia by monitoring the patient state index (PSI), which was computed from the SedLine monitor data in Root (Masimo) during general anesthesia. Our case showed unusual elevations in entropy, but not in PSI.

CASE PRESENTATION: A 34-year-old woman was scheduled for emergency surgery for a left tibial open fracture and a right femoral closed fracture, which were sustained during a traffic accident. Forty-five minutes after intubation, the response entropy abruptly increased up to 100 and state entropy to 91. Despite the absence of other abnormal events, the entropy data led to two types of incorrect decisions. The first was owing to the effect of the EMG and the second was misleading during the surgeon's hammering. However, PSI from the SedLine monitor seemed to be less influenced by the same events.

CONCLUSIONS: In this report, we suggest that the PSI, derived from new-generation SedLine (Root, Masimo) may be a useful parameter for clinically determining the level of sedation. The use of two monitoring devices with different EEG algorithms might be helpful for determining the anesthetic depth and making decisions.