Acupuncture sedation in an intensive therapy setting

Paul Farquhar-Smith

Any strategy which may reduce the need for sedative drugs in intensive care is welcomed. The benefits of sedation are compromised by the negative effects, such as hypotension, longer periods of ventilation and contribution to delirium. In this edition, Zheng and colleagues present evidence that using the bispectral index (BIS) as a depth of sedation measure, electroacupuncture at two Chinese acupuncture points (GV24, Shenting and EX-HN3, Yintang) can reduce the rate of midazolam infusion required to sedate patients in a critical care unit (CCU).1 A pilot study has previously implied a role for acupuncture in sedation of critically ill patients.2 Surface electrostimulation (at LI4, ST36, HT7 and LR3) significantly reduced the amount of propofol used to sedate 12 patients.3 In that study, sedation was assessed using a subjective scoring system (Sheffield Sedation Scale).2 Zheng et al used BIS and the Ramsay scoring system to guide sedation in 45 patients in intensive care.1 One group received midazolam only (group A), other groups additionally received acupuncture (B) or electroacupuncture (C) at GV24 and Yintang. There was a modest reduction in hourly mean dosage of midazolam infusion in group C compared with the other groups, equivalent to approximately 2 mg/h of midazolam.1 However, this was an untypical group of patients, described as being ventilated, awake and cooperative before starting the single-agent sedation (also not typical practice) with or without acupuncture. Furthermore, the short duration (6 h) of the study makes applicability of these data problematic.

This paper highlights challenges with electroacupuncture itself (owing to interference, BIS could only be measured when electroacupuncture was off), and also with the use of BIS as a measure of sedation. BIS attempts to ‘measure’ unconsciousness by modulating raw EEG into a single number, processed by an algorithm derived from volunteer studies. A BIS of 40–60 is recommended for sufficient depth of anaesthesia and is reasonably well validated. There is some evidence that using higher BIS levels (60–80) can be used to guide sedation in a CCU3 but this requires further evidence. Some studies have questioned the validity of BIS in this setting by failing to find good correlation between subjective scores or drug dosing.4 One source of error is that EMG activity raises the BIS score yet can occur in well-seated patients.3 Consequently, BIS is still not routinely used for assessment of sedation.

Zheng et al inferred that the putative mechanism (in Western medical terms) of acupuncture for sedation was possibly similar to its analgesic action for which there are supportive data.5 Indeed, here electroacupuncture may have filled the lack of analgesic in their sedation study protocol. The possibility of acupuncture treatment that could provide analgesic-like sedation remains an appealing, new concept. However, more data are required to demonstrate the efficacy and practicalities of longer-term acupuncture sedation.

Although the use of acupuncture for sedation in a CCU is an interesting premise, further investigation is needed of the role of acupuncture and the validity of BIS for monitoring sedation in the CCU environment. Furthermore, until there is evidence from large trials indicating a true reduction in sedative agents and in their adverse effects, it is unlikely that acupuncture will be widely used.

Competing interests None.

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REFERENCES

Correspondence to Paul Farquhar-Smith, Department of Anaesthetics, The Royal Marsden NHS Foundation Trust, Downs Road, Sutton, Surrey SM2 5PT, UK; Paul.Farquhar-Smith@rmh.nhs.uk

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