HIGHLIGHTS

• During microvascular decompression (MVD) surgery for hemifacial spasm it was shown that the lateral spread response (LSR) is suppressed by 43% with 1MAC of desflurane (+ TIVA) compared to TIVA alone.

• During LSR acquisition neither the order of drug administration, EEG state or mean arterial blood pressure were responsible for the suppression observed with desflurane.

• These data provide direct evidence that a central mechanism of action is involved in the genesis of the LSR.

INTRODUCTION

• A signature EMG feature of hemifacial spasm (HFS) is the lateral spread response (LSR).

• The mechanism of the LSR remains controversial.

• If the LSR involves a CNS mechanism then desflurane should inhibit the LSR because of the central locus of action of desflurane.

METHODS

• 22 HFS patients undergoing MVD surgery participated in this prospective study.

• The LSR was recorded from the o. oculi, o. oris and mentalis and all data were obtained prior to opening dura.

• LSR onset latencies and amplitudes were determined under TIVA and TIVA/desflurane (0.5 and 1 MAC). Pooled and individual facial muscle LSRs and EEG were analyzed.

RESULTS

• Desflurane (1 MAC) significantly decreased the LSR amplitude in all 3 facial muscles (p < 0.01).

• When LSR data from all facial muscles were pooled desflurane inhibited the LSR amplitude 43% compared to TIVA (p < 0.001).

• No effects on the latency of the LSR or in EEG state were observed.

CONCLUSION

• The effects of desflurane on the LSR suggest that a central mechanism is involved in the genesis of this signature HFS response.