Ulkatan et al., electrically stimulated the masseteric nerve, a branch of the trigeminal nerve, and recorded ipsilateral masseteric and temporalis muscle responses. We tested eight patients who presented with trigeminal neuralgia; one patient had a temporal bone tumor and one patient had a brainstem arteriovenous malformation. All responses were elicited when patients were under general anesthesia and before the initiation of surgery.

The H reflex in the masseter muscle was reliably elicited in 70% of the patients. The reflexes met the usual criteria for the H reflex because they were elicited below the threshold of the direct M response, and their amplitudes decreased when the M response increased with stronger stimuli. The mean onset latencies of the masseter H reflex and the M response were 5.4±1.3ms and 2.6±0.6ms, respectively.

In the present study, we provide evidence of the feasibility of eliciting the H reflex in the masseter muscles of patients under general anesthesia.

The H reflex of the masseter muscle may represent a new method available for intraoperative monitoring. Specifically, this method may be important for the monitoring of brainstem functional integrity, particularly in the midbrain and mid-pons, in addition to the trigeminal nerve path [1].

1)
Ulkatan S, Jaramillo AM, Téllez MJ, Goodman RR, Deletis V. Feasibility of eliciting the H reflex in the masseter muscle in patients under general anesthesia. Clin Neurophysiol. 2016 Nov 5;128(1):123-127. doi: 10.1016/j.clinph.2016.10.092. [Epub ahead of print] PubMed PMID: 27888745.