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Human jaw-tongue reflex as revealed by intraoral surface recording.

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The purpose of this study was to examine if there is a human jaw-tongue reflex. This study was carried out in seven healthy adult males and recorded the genioglossus muscle activity during various functions by using a miniature intraoral surface electrode, which is comparable with intramuscular fine-wire electrodes, but without pain or disturbance of the tongue movement. The ipsilateral masseteric and digastric muscle activities were simultaneously recorded with the surface electrodes. Tonic genioglossus muscle activity was recorded during clenching. A passive jaw opening elicited the stretch reflex in the masseteric muscle and increased genioglossus muscle activity. Electrical stimulation of the lower lip inhibited the tonic activity in the masseteric and genioglossus muscles during both clenching and tongue protrusion. Moreover, the latency of the inhibition in the genioglossus muscle activity was shorter during clenching than during tongue protrusion. Based on these findings, the authors conclude that the human jaw-tongue reflex exists and that the jaw-closing muscle is involved in evoking the reflex.

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