Objective  The aim of this study was to assess the effect of submental sensitive transcutaneous electrical stimulation (SSTES) on pharyngeal cortical representation after a virtual pharyngeal lesion in healthy subjects.

Methods  Motor-evoked potentials of the mylohyoid muscles and videofluoroscopic parameters were measured before and after the creation of the virtual lesion, at the end of SSTES (T0), at 30 minutes (T30) and 60 minutes (T60).

Results  Nine subjects completed the study. After 20 minutes of SSTES, there was an increase of motor-evoked potential amplitude at 0 and 30 min ($P < 0.05$). There was no significant modification of videofluoroscopic measurements. Regarding the cortical mapping after SSTES, there was an increase in the number of points with a cortical response in the dominant hemisphere but also in the non-dominant hemisphere, effect which remained constant at 60 minutes ($P < 0.05$).

Discussion  SSTES is effective on cortical plasticity for the mylohyoid muscles and reverses pharyngeal cortical inhibition in healthy subjects. It could therefore be a simple non-invasive way to treat post-stroke dysphagia.

Keywords  Swallowing disorders; Motor imagery; Recovery

Disclosure of interest  The authors have not supplied their declaration of conflict of interest.

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Is motor imagery really a window for studying stroke recovery at subacute stage?

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Background  Because of similarities with overt movement execution, motor imagery is considered as a way to study motor recovery after stroke. However, some studies could not correlate motor imagery abilities with motor function at the subacute stage of stroke challenging motor imagery as a substitute to motor execution in these patients. The aim of this study was to compare explicit and implicit motor imagery abilities in stroke patients and in healthy subjects, to correlate those with motor function and investigate the role of lesion side and location on performances.

Methods  Twenty-two stroke patients at the subacute stage and 22 healthy volunteers performed implicit and explicit motor imagery tasks (Hand Laterality Judgment Task [HJLT], imagined and executed self-paced hand movements) and a motor assessment (maximal grip strength, Jebsen-Taylor Test [JTT]). Differences between healthy subjects and patients and the impact of lesion side and location on motor imagery were studied using ANOVA. Correlation coefficients were used to analyze the relationship between motor imagery abilities and motor function.

Results  For implicit imagery in HJLT, stroke patients had slower reaction times ($P \leq 0.03$) and tended to have higher rates of errors ($P = 0.05$) but shared similar characteristics (angle effect: $P \leq 0.01$) compared to healthy subjects. For explicit imagery, patients were slower than healthy subjects for the affected hand in the executed condition ($P = 0.04$) and tended to be slower in the imagined condition ($P = 0.06$). Patients and healthy subjects exhibited a temporal congruence ($P \leq 0.004$) except for right-sided strokes ($n = 8$) and patients with parietal damages ($n = 9$) for the affected hand. Finally, in stroke patients, implicit and explicit imagery performances were not correlated with upper limb function.

Conclusion  Caution must be taken to use motor imagery as a tool for monitoring stroke recovery because subacute stroke patients exhibit motor imagery deficits, independently of the severity of motor impairment.

Keywords  Stroke; Motor imagery; Recovery

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Partners of the speech therapist in management of swallowing disorders; establishment of an interdisciplinary project

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During the first three months after a stroke, healthcare teams are confronted to feeding problems such as swallowing disorders. Many studies have revealed that 91% of patients suffer from lating swallowing reflex (AHCP, 1999; Veis and Logemann, 1985). Assessment and management are available in the acute care but are unknown later and in consequence not applied during the rehabilitation. However, the continuity of care is a major issue because swallowing disorders may have negative even vital effects. Rehabilitation team called “Filiere AVC Lille Flandre Lys”, which includes four speech therapists, works with eight rehabilitation hospitals as partners. Since January 2013, an improvement project has been implemented with all partners regarding to post-stroke dysphagia. The aim of this project is firstly to improve and secure the management and support of swallowing disorders, and secondly to integrate it in everyday practice from acute to rehabilitation care. This project helps speech therapist to identify team’s knowledge about dysphagia but also offers theoretical and practical training programs to any nursing staff and patient. A referent is nominated and become the main spokesperson for the team and also for the speech therapist. In consequence, the management of dysphagia is optimized (texture, prevention of complications, internal communication). Another aim is to promote exchanges between referents to compare practices and communication tools in their care units, and to develop adapted menus for dysphagia patients, in an interdisciplinary approach. The management of this project by a speech therapist shows the necessary evolution of this profession at hospital. Beyond its abilities in assessment and rehabilitation, the speech therapist’s role is to create link between all the people involved in daily life having an action on the feeding conditions of the patients. The action of the speech therapist is no longer restricted one to one patient/therapist relation. It is important for the speech therapists to become aware of it and for hospitals to integrate this new dimension of the practice.

Keywords  Swallowing disorders; Continuity of care; Speech therapist; Healthcare team; Interdisciplinary project

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