Swallowing disorders

Lectures

CO26-001-e
Pathophysiology of oropharyngeal dysphagia in stroke patients
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Keywords: Stroke; Dysphagia; Disease; Recovery; TMS

Background. — Swallowing problems can affect as many as 50% of patients in the period immediately after a stroke. In some cases, this can lead to serious morbidity, in particular malnutrition and pulmonary aspiration. Despite this, treatments remain controversial, with limited evidence base and little in the way of objective scientific criteria.

Method. — Moreover, swallowing can recover in some patients to a safe level within weeks making it an interesting model for understanding brain recovery and cortical plasticity. A better understanding of these processes as seen in spontaneous recovery may therefore help in developing therapeutic interventions that can drive useful changes in the brain and so encourage the recovery process.

Results. — In this talk, I will examine present knowledge about the cortical control of swallowing in man particularly from investigations with transcranial magnetic stimulation, and explore what aspects of it’s organisation are important for compensating for recovery after damage.

Conclusion. — Transcranial magnetic stimulation is a useful tool for recovery of swallowing disorders.

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CO26-002-e
New therapeutic options in post-stroke oropharyngeal dysphagia
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Keywords: Stroke; Dysphagia; Therapy; Stimulation; Pharynx; Electrical; Brain stimulation

Background. — Swallowing problems are recognised to be a major complication after brain injury, with some reports putting the prevalence at over 50%. Despite this, swallowing therapies remain controversial, with limited evidence base and little in the way of objective scientific criteria.

Method. — Moreover, swallowing can recover in some patients to a safe level within weeks making it an interesting model for understanding how therapies that are based on neuroplasticity might be applied. A better understanding of these processes as seen in spontaneous recovery may therefore help in developing therapeutic interventions that can drive useful changes in the brain and so encourage the recovery process.

Results. — In this talk, I will describe current approaches to swallowing therapies and report on newer technologies for the rehabilitation of swallowing including functional electrical stimulation (FES), transcranial brain stimulation and combinations of the two. These data will form the basis for future design and development of neurostimulation based treatments for dysphagia after brain injury. Swallowing is important to human life and when disrupted (dysphagia) the consequences can be devastating.

Conclusion. — The application of neurostimulation in the rehabilitation of swallowing disorders after brain injury may provide useful adjunctive treatments to improve this life threatening condition.

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CO26-003-e
Prevalence and risk factors of oropharyngeal dysphagia in stroke patients
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Background. — Oropharyngeal dysphagia (OD) is a severe condition in stroke patients that can lead to malnutrition, respiratory infections and death.

Method. — Prospective, observational study on stroke patients admitted to a general hospital over 10 months. OD was clinically assessed using the volume-viscosity swallow test (V-VST). Rankin Scale (RS), Barthel Index (BI), and National Institute of Health Stroke Scale (NIHSS) were collected. Clinical and neurological and neuroanatomical factors and causes severe health impairment are reported. OD prevalence is very high, it is associated to specific clinical neurological and neuroanatomical factors and causes severe health impairment during hospitalization and after discharge.

Results. — One hundred and eighty fulfilling the inclusion criteria (74.2 ± 11.5 years, 51.8% males). Previous to stroke, patients presented good functional status (BI 90.4 ± 17.1, RS ≤ 1 72.8%). Prevalence of post-stroke OD was 41.7%. OD was significantly associated to age > 70 years, OR 2.5 (1.2–5.1); previous disability RS > 1, OR 2.4 (1.4–6.6); previous stroke, OR 2.5 (1.4–4.8); severity of stroke NIHSS > 7, OR 4.1 (1.2–10.0); total anterior circulation infarction, OR 3.4 (1.2–11.2) and right lateralization, OR 2.6 (1.4–5.1). OD was associated with higher risk of respiratory infections, OR 17.9 (2.3–141.8), prolonged hospitalization and intrahospital mortality, OR 9.04 (1.4–51.8), and poor outcome following discharge including impaired functional status RS > 2, OR 4.4 (2.3–8.2) and increased risk of institutionalization, OR 3.4 (1.8–6.8).

Conclusion. — OD prevalence is very high, it is associated to specific clinical neurological and neuroanatomical factors and causes severe health impairment during hospitalization and after discharge.

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