

Facial Weakness, Slurred Speech, and Difficulty Swallowing

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Background

Definition

Slurred speech (*dysarthria*) indicates a defect of speech articulation and intelligibility, in contrast to a disorder of language production (*aphasia*). *Facial weakness* refers to reduction in the contraction of any of the muscles supplied by the facial nerve, whether reflexive or volitional. Difficulty swallowing is termed *dysphagia*.

Impact

Eating, speaking, and expressing ourselves through facial expression all play an enormous role in our daily lives. Quality of life is significantly decreased in patients who are unable to communicate effectively due to dysarthria. And difficulty with swallowing is associated with high levels of morbidity and mortality related to malnutrition, dehydration, and the effects of aspiration, especially in the elderly population.

Approach to diagnosis

Getting your bearings

While the symptoms of facial weakness, dysphagia, and dysarthria can be related to one another, they often present independently of each other and are caused by largely disparate pathologies. Facial weakness, slurred speech, and difficulty swallowing are closely related in the neurology patient as these are common symptoms in stroke patients, for example. There is a broad differential for these three disorders including both neurologic and mechanical causes.

- In approaching facial nerve paralysis, the severity of weakness and etiology will dictate the prognosis and likelihood of improvement.
- Dysphagia can be caused by disruption of any of the three phases of swallowing (oral, pharyngeal, and esophageal), although cognition and the role of the larynx should also be recognized.
- Causes of dysarthria can be categorized as central or peripheral.

Key elements of history

A detailed history should always be obtained with special emphasis on the following.

Facial paralysis

- Duration of symptoms: acute, subacute, or chronic?
- Pre-existing neurologic disease: e.g. stroke, myasthenia gravis, multiple sclerosis?
- Pre-existing systemic and endocrine disease: diabetes mellitus, hyperthyroidism, hyperostoses, sarcoidosis, pregnancy, sexually transmitted diseases?
- Other associated symptoms: otalgia, hearing loss, tinnitus, vertigo, fever, rash, eye pain, blurred vision?

Dysarthria

- History of stroke, neuromuscular disorders (autoimmune disorders, myasthenia gravis, multiple sclerosis, amyotrophic lateral sclerosis)?
- Distinguish from dyskinesia (secondary to medication effects).
- Differentiate among dysarthria (a voice disorder with loss of neuromuscular control), aphasia (a language disorder), and apraxia (disorder in planning the sequence of and coordination of tongue movements).

Dysphagia

- Acute vs chronic?
- Solids vs liquids, progression from solids to liquids (suggestive of obstructive lesion)?
- Associated symptoms: odynophagia (inflammatory/infectious), coughing/choking (aspiration), regurgitation of digested vs undigested food (gastrointestinal obstruction, Zenker's diverticulum), voice changes/globus sensation (laryngeal involvement, laryngopharyngeal reflux), neurologic symptoms (central etiology), presbypharynges?
- Smoking, alcohol (risk factors for head and neck malignancy), recent weight loss, fevers?
- Pre-existing systemic disorders: hypothyroidism, autoimmune disorders (scleroderma/CREST (calcinosis, Raynaud's phenomenon, esophageal dysmotility, sclerodactyly, and telangiectasia), Sjögren's, sarcoidosis)?
- History of chemotherapy or radiation to head and neck (esophageal stricture, radiation-induced mucositis)?

Table of elements of history and diseases

Facial paralysis	Symptoms	Other key features
Idiopathic (Bell's palsy)	Acute in onset, unilateral (upper and lower divisions), posterior auricular pain, otalgia, hyperacusis, dysgeusia	Although very rare, bilateral paralysis can occur Bell's palsy more often affects pregnant women, diabetics, and otherwise immunocompromised people
Infectious etiologies	Viral prodrome, otalgia, otorrhea	90% of cases of malignant otitis externa are found in diabetics and those immunocompromised, with pain out of proportion to physical examination

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