“The Pharyngoesophageal segment: From cricopharyngeal dysfunction to tracheoesophageal speech in laryngectomees”

Background

The pharyngoesophageal segment (PES) is made up of the inferior pharyngeal constrictor, the cricopharyngeus muscle and the proximal part of the cervical oesophagus. The upper oesophageal sphincter (UES) is a 2.5 to 4.5 cm high pressure zone visualized on manometry between the pharynx and oesophagus. PES refers to anatomy and UES to function, but the terms are synonymous. Cricopharyngeal or PES dysfunction, characterized by oropharyngeal dysphagia, is the reduction in maximal opening of the UES during transphincteric flow.

The PES plays an essential role not only in swallowing disorders, but also in voice production after total laryngectomy. Its clinical and radiological assessment may be challenging: videomanometry combining manometry (solid state or high resolution) and videofluoroscopy allows direct comparison of pressure readings with dynamic anatomy during swallowing and phonation.

Methods and aim of the studies:

Study 1: Translation and validation of the Sydney Swallow Questionnaire (SSQ) to Swedish conditions. Evaluation of validity and test-retest reliability of the Swedish translation in patients with oropharyngeal dysphagia and in healthy controls.

Study 2: Prospective randomised study to compare the effect of balloon dilatation versus laser myotomy of the cricopharyngeal muscle in cricopharyngeal dysfunction, using solid state videomanometry and SSQ both before and after treatment.

Studies 3 and 4: Description of the PES in tracheoesophageal speakers (good voice quality in study 3, poor voice in study 4) using high resolution videomanometry, high speed camera recording and voice perceptual assessment.

Preliminary results:

The Swedish version of the SSQ proved to be a reliable and consistent instrument for the assessment of subjective dysphagia symptoms.

According to measures with both videomanometry and SSQ, laser myotomy improves UES opening in 100 % and balloon dilatation in 50% of the patients in our study over a six months period.
Relevance:

The use of a self reporting instrument as the SSQ, voice perceptual assessment and objective measures as videomanometry and high speed camera recording, contributes to a better knowledge of the PES and is therefore relevant in our patients assessment and treatment.