Aims

• Provide an overview of the incidence of dysphagia, associated risks and dysphagia recovery

• Highlight the limitations of current practice and benefits of instrumental assessment

• Review treatment and management of post-stroke dysphagia
Dysphagia an Overview

Stages of Swallowing

1 Oral Preparatory stage

2 Oral stage

3 Pharyngeal stage

4 Esophageal stage
Incidence of Post-Stroke Dysphagia

- The most reliable videofluoroscopic evidence reports the incidence of dysphagia in the acute phase as **78%** (Daniels and Foundas, 1999) and **71%** (Hamdy et al. 1998).

- Aspiration is reported in **38%** (Daniels and Foundas, 1999) and **42%** (Kidd, Lawson, Nesbitt and MacMahon 1993) of dysphagic patients.

- **67%** of post-stroke patients that aspirated did so silently, according to Daniels et al. (1998).
Silent Aspiration
Risks associated with post-stroke dysphagia

- Increased risk of poor nutrition, hydration and aspiration-related pneumonia (Martino, et al. 2005)
- Increased length of hospital admission, increased mortality, co-morbidities, institutionalization and health care costs (Smithard, et al. 1996)
- Increased medication administration errors (Haw, et al 2007)
- Up to one-third of stroke patients will develop pneumonia (Sellars, et al. 2007)
- Pneumonia is the leading cause of death post-stroke (Heuschmann et al. 2004)
- Pneumonia in the post-stroke population is often due to aspiration (Armstrong and Mosher (2011))
Risks associated with post-stroke silent aspiration

- **5.5 times** greater risk for developing pneumonia for stroke patients that aspirated silently, compared with those who audibly aspirated or those that did not aspirate (Holas et al. 1994)

- Patients with aspiration during swallow had a **fourfold** increased risk of pneumonia. Those with profound aspiration had a **tenfold** increased risk and those with silent aspiration had a **thirteen fold** increased risk of pneumonia (Pikus et al. 2003)
Limitations of Current Practice

• The traditional dysphagia assessment is not reliable for detecting silent aspiration (Ramsey et al 2003)

• CSE identified 42% of the aspirating patients; more concerning, 70% of patients with profound aspiration on VFS were not identified as aspirating during their CSE (Splaingard et al 1988)
Instrumental Assessment

VFSS
VideoFluoroscopic Swallow Study

FEES®
Fiberoptic Endoscopic Evaluation of Swallowing
Screening tools for silent aspiration

- Cough Reflex Testing (CRT) a quick, cost effective, validated method to identify those at risk of silent aspiration (Miles et al 2013)

- CRT paired with a water swallow test. Sensitivity for detection of aspiration was 89% and specificity was 89% (Wakasugi et al., 2008)

- CRT has been in use for over 50 years and has been specifically designed to assess reflexive, as opposed to voluntary cough

- Over the past 20 years researchers have used cough reflex testing to specifically test cough in the stroke population

- CRT is used as part of routine clinical practice in many institutions
CRT Strong pass
CRT Fail
Dysphagia cause and recovery

- Central and peripheral causes can result in absence of function, weakness or incoordination of swallow musculature

- Post-stroke dysphagia is typically transient and spontaneously resolves. 71% of patients initially presented with dysphagia this reduced to 46% one month post (Hamdy et al. 1998)

- Recovery in the acute stage is often attributable to the resolution of oedema and return of circulation to the ischemic penumbra (Dombovy, 1991)

- Hamdy et al (1998) suggest reorganisation of the intact hemisphere as a mechanism for dysphagia recovery
Management of Dysphagia

• **Compensatory:**
  - Typically used in the acute stages
  - Address the symptoms of dysphagia but not underlying impaired swallow physiology

• **Rehabilitative:**
  - Rehab is necessary for those whose swallowing problems do not resolve spontaneously
  - Therapy programmes have shown positive returns to total oral feeding even in patients with chronic dysphagia (Crary 1995, Huckabee & Cannito 1999)
Diet restrictions & modification

- NBM non oral feeding NGT & PEG
- Puree diet
- Water Protocols

- Medication administration in patients with dysphagia after stroke should be managed as a team (McFarlane et al 2014)
Summary

- Dysphagia post-stroke is common, early identification and management is crucial to avoid aspiration pneumonia, dehydration and malnutrition.

- Dysphagia management needs to be approached as an inter-disciplinary team.

- Speech-Language Therapists provide objective diagnostic information about a patient’s swallowing abilities and provide recommendations for rehabilitation of swallowing physiology, while also providing short-term compensatory advice.

- Diet modification has consequences for nutrition, hydration and quality of life and this should be taken into consideration by the stroke team. Medication administration in patients with dysphagia is complex and poses pharmaceutical and legal challenges.

- Pharmacists should be consulted and patient care plans should be individualised to provide safe and effective pharmaceutical support.
Thank you
References


References


References


