Dysphagia as a Geriatric Syndrome
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- One of the 100 “Hoosier Heroes” recently awarded by the United Way of Central Indiana
This speaker has no conflict of interest to disclose.
Understanding Geriatric Syndromes

• Definition:
  - Multiple versions in the literature
  - “Complex multifactorial conditions in which large numbers of underlying and provocative risk factors involving different organ systems interact in influencing ultimate clinical presentation, course, response to treatment and outcome”
  - “Clinical conditions in older persons that do not fit into disease categories but are highly prevalent in old age, multifactorial, associated with multiple comorbidities and poor outcomes and are only treatable when a multidimensional approach is used”

• Examples:
  - sleep disorders
  - delirium
  - syncope
  - pressure ulcers
  - incontinence
  - pain
  - dizziness
  - falls
  - mood disorders
  - fatigue
  - malnutrition
  - self neglect
  - elder abuse
• First defined in 1909
• More widely accepted in 20th century
• “the four geriatric giants” = sentinel geriatric syndromes
  • Immobility
  • Instability
  • Incontinence
  • Intellectual impairment
• More common in advanced age but not representative of “normal aging”
• Helpful for discerning which patients may benefit from geriatric care
Why It Matters

• Geriatric care providers recognize the complexities unique to the geriatric population
  • Focus on functional status in addition to/instead of individual disease states or organ systems

• Geriatric syndromes substantially impact quality of life and disability
  • Screening for, recognizing & addressing the syndromes common in elderly is key to operationalizing the principles of geriatrics
  • The presence of these syndromes, especially if multiple in a single individual, can help evaluate for frailty, assess prognosis & assist in medical decision making
Understanding Dysphagia

- **Definition:** “A subjective sensation of difficulty or abnormality of swallowing”
- **Examples of patient complaints:**
  - Difficultly starting a swallow
  - Sensation of solids and/or liquids getting stuck during transit into stomach
- **Related terms:**
  - Odynophagia = pain with swallowing
  - Globus sensation = a functional disorder characterized by the sensation of a tightness, lump, or retained bolus
    - Not otherwise due to a structural abnormality, GERD, or motility disorder of the esophagus
    - Sx are independent of swallowing
Why It Matters

• Dysphagia is:
  • An ALARM symptom that should initiate a prompt, thorough investigation, when appropriate

• Dysphagia is NOT:
  • Normal aging
    • Normal aging may cause mild abnormalities in esophageal motility, but rarely to the point of being symptomatic
Dysphagia as a Geriatric Syndrome

1. Is dysphagia more **prevalent in the elderly**?
2. Does dysphagia present as a constellation of **multiple signs and symptoms**, making it more challenging to recognize for both patients and care providers?
3. Are there common **risk factors** among dysphagia and other accepted geriatric syndromes?
4. Does dysphagia **interact** with other accepted geriatric syndromes?
5. Does dysphagia impact the **prognosis** of geriatric patients who have it?
6. Is dysphagia best treated with a **multidimensional** approach?
YES TO ALL!
1. Is Dysphagia More Prevalent In the Elderly?

- Dysphagia is most common in the elderly population.
- Prevalence in general population: 2.3-16%.
- Prevalence rates vary by population examined, method of evaluation, definition of dysphagia studied.
- Dysphagia occurs in approximately:
  - 30-40% of elders in independent living
  - 44% elders in acute care setting
  - 60% institutionalized elders
- Prevalence increases with frailty.

### Table 1 Prevalence of dysphagia in different phenotypes of patients or diseases

<table>
<thead>
<tr>
<th>Phenotype</th>
<th>Target population</th>
<th>Evaluation method</th>
<th>Prevalence</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older patients</td>
<td>Independently living older people</td>
<td>Screening (questionnaires)</td>
<td>11.4%-33.7%</td>
<td>Holland et al(57)</td>
</tr>
<tr>
<td>Hospitalized AGU</td>
<td>Not specified/water swallow test</td>
<td>Clinical exploration (V-VST)</td>
<td>23%</td>
<td>Roy et al(58)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>29.4%-47%</td>
<td>Bloem et al(59)</td>
</tr>
<tr>
<td>Hospitalized with CAP</td>
<td>Water swallow test/V-VST</td>
<td></td>
<td>55%-91.7%</td>
<td>Kawashima et al(60)</td>
</tr>
<tr>
<td>Hospitalized with CAP</td>
<td>Instrumental exploration</td>
<td></td>
<td>75%</td>
<td>Yang et al(61)</td>
</tr>
<tr>
<td>Institutioned</td>
<td>Screening (questionnaires)</td>
<td></td>
<td>40%</td>
<td>Barci et al(62)</td>
</tr>
<tr>
<td></td>
<td>Water swallow test</td>
<td></td>
<td>38%</td>
<td>Serrn-Prez et al(63)</td>
</tr>
<tr>
<td></td>
<td>Screening + clinical exploration</td>
<td></td>
<td>51%</td>
<td>Cabre et al(64)</td>
</tr>
<tr>
<td>NDDs</td>
<td>Parkinson’s disease</td>
<td>Reported by patients</td>
<td>35%</td>
<td>Cabre et al(65)</td>
</tr>
<tr>
<td></td>
<td>Alzheimer’s disease</td>
<td>Instrumental exploration</td>
<td>82%</td>
<td>Almirall et al(66)</td>
</tr>
<tr>
<td></td>
<td>Dementia</td>
<td>Instrumental exploration</td>
<td>57%-84%</td>
<td>Almirall et al(67)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reported by caregivers</td>
<td>19%-30%</td>
<td>Lin et al(68)</td>
</tr>
<tr>
<td></td>
<td>Multiple sclerosis</td>
<td>Instrumental exploration</td>
<td>57%-84%</td>
<td>Cabre et al(69)</td>
</tr>
<tr>
<td></td>
<td>ALS</td>
<td>Screening (questionnaires)</td>
<td>24%</td>
<td>Butt et al(70)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Instrumental exploration</td>
<td>34.3%</td>
<td>Calzaldo et al(71)</td>
</tr>
<tr>
<td></td>
<td>Stroke</td>
<td>Clinical and instrumental evaluations</td>
<td>47%-86%</td>
<td>Butt et al(72)</td>
</tr>
<tr>
<td></td>
<td>Acute phase</td>
<td>Screening (questionnaires)</td>
<td>37%-45%</td>
<td>Chen and Garrett(73)</td>
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<td></td>
<td></td>
<td>Clinical exploration</td>
<td>51%-55%</td>
<td>Ruopolo et al(74)</td>
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<td></td>
<td>Chronic phase</td>
<td>Clinical exploration</td>
<td>40%-61%</td>
<td>Martino et al(75)</td>
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</table>


**Abbreviations:** V-VST, volume-viscosity swallow test; AGU, acute geriatric unit; CAP, community-acquired pneumonia; NDDs, neurodegenerative diseases; ALS, amyotrophic lateral sclerosis.
2. Does Dysphagia Present as a Constellation of Multiple Signs and Symptoms?

- Dysphagia is an umbrella for dozens of clinical conditions
- Algorithms for recognizing and diagnosing various types of Esophageal and Oropharyngeal dysphagia based on clinical presentation
  - Caution when broadly applying to geriatric population
Evaluation and management of oropharyngeal dysphagia

- History, physical
  - Identify alternative syndromes: eg, globus, esophageal dysphagia, xerostomia

- Laboratory as indicated
  - CNS imaging
  - Identify syndromes with specific Rx: eg, toxic or metabolic myopathies, myasthenia, CNS tumors

- No evidence of systemic process
- Neuromuscular dysfunction without specific Rx: eg, CVA, trauma

- Nasoendoscopy to evaluate for structural causes of dysphagia
- Videofluoroscopic swallowing ± manometry to characterize severity and mechanism of swallow dysfunction

- Identify structural lesions with specific Rx: eg, tumors, Zenker’s
- Severe dysfunction or risk of aspiration pneumonia: nonoral feeding, tracheostomy
- Dysfunction potentially amenable to cricopharyngeal myotomy
- Dysfunction potentially amenable to therapy: diet modification, swallow therapy, ± temporary nonoral feeding
3. Are There Common Risk Factors Among Dysphagia and Other Geriatric Syndromes?

- Several Geriatric Syndromes have been commonly linked to two risk factors: **functional** and **cognitive** impairment.
- Dysphagia is also more common in institutionalized AND independently living elders with **functional** or **cognitive** limitations.
- A close association is also found between dysphagia and other factors common to geriatric syndromes:
  - age
  - functional capacity
  - frailty
  - polypharmacy
  - multimorbidity
4. Does Dysphagia Interact with Other Geriatric Syndromes?

- Malnutrition and dysphagia are closely interrelated
- Sarcopenia and other age-related loss of muscle mass and strength are interrelated with dysphagia
- Dysphagia is most prevalent in patients with neurologic conditions:
  - Especially neurologic conditions affecting cognition and/or functional capacity:
    - 29-64% CVA patients have dysphagia
    - 80% dementia patients have dysphagia
      - *More advanced dementia → higher prevalence of dysphagia*
5. Does Dysphagia Impact Prognosis?

- Increased short and long-term **mortality** has been found to be associated with dysphagia
  - One study showed relationship between dysphagia, institutionalization, 1-year mortality in patients age 70+ post hospital discharge
- Dysphagia as a risk factor for readmission of elderly with pneumonia
- Dysphagia as it relates to multiple adverse outcomes:
  - Dehydration
  - Anorexia → reluctance to feed
  - Weight loss → protein energy undernutrition
  - Sarcopenia → decreased function
  - Aspiration: chemical or bacterial
  - Decreased enjoyment of eating/drinking
  - Embarrassment in social situations
  - Isolation → depression
  - Caregiver stress
  - Dysphoria
  - Death
6. Is Dysphagia Best Treated with a Multidimensional Approach?

• Generally accepted that proper management of dysphagia:
  • Requires a multidisciplinary team
  • Should include multiple strategies
    • Compensatory
    • Rehabilitative

• Ashton Galyen, Speech Language Pathologist, will now speak to some of the ways to test and treat dysphagia in the elderly
Bibliography

  https://www.uptodate.com/contents/approach-to-the-evaluation-of-dysphagia-in-adults?search=dysphagia&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1
dysphagia&source=search_result&selectedTitle=2~61&usage_type=default&display_rank=2