

Background

- Traumatic brain injury (TBI) is a potential cause of dysphagia in the adult population.
- The incidence of dysphagia in the TBI population varies with estimates from 25% to 93%.
- Post-TBI dysphagia is influenced by several factors that may affect one or more of the stages of swallowing including oropharyngeal neuromuscular and sensory deficits, cognitive-communication, and behavioral impairments.

Methods

- 21 studies were included using common search strings.
- Common key themes that were utilized included dysphagia, TBI, evaluation, rehabilitation and intervention.
- Exclusion criteria for this study included
 - pediatric patients (e.g., age <16 years)
 - previously known swallowing problems due to neurologic impairments (e.g., Multiple Sclerosis)
 - non-human participants (e.g., pig).

Research Questions

- What are the common signs and symptoms of dysphagia in TBI patients?
- What are commonly used evaluation methods in patients with dysphagia post TBI?
- What treatment strategies are frequently used in dysphagia following a TBI?

Results

- The main clinical parameters described to predict swallowing disorders have been cough or change in voice quality after swallowing and impaired or absent palatal and/or gag reflex.
- A clinical bedside evaluation alone is insufficient with this population given the frequency of aspiration, with a high percentage (over ½) being silent aspirators. Due to the silent aspiration being unable to be clinically detected instrumental assessments are essential.
- The most relevant abnormalities identified by instrumental assessments were aspiration and decreased laryngeal elevation. In the oral phase, impairment in tongue control was the predominant dysfunction.
- Intervention approaches range from compensatory techniques to more advanced methods.
- A positive correlation was found between the brain neuroplastic changes induced by Vitalstim and the swallowing function improvement.

Discussion

- Early bedside assessment of swallowing and instrumental assessments are essential for detection of swallowing disorders as well as identifying subsequent treatment.
- Treatment should be based on instrumental findings when clinically warranted. Few studies have provided data showing the effectiveness of strategies for dysphagic TBI patient.
- Treatment strategies most often used are those that do not require great patient cooperation due to cognitive comorbidities.
- More research is needed to determine the most optimal intervention methodology for dysphagia rehabilitation in TBI patients.

References

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