Aspire to No Aspiration

by Javier Aceves, M.D.

The incidence of aspiration pneumonia among people with developmental disabilities continues to be of great significance despite technological advances. The morbidities and complications associated with this event can be life threatening and certainly have the potential to impact a person's quality of life. This article will discuss the risk factors associated with aspiration, clinical manifestations and precautions. Greater understanding of the pathophysiology has motivated health professionals such as pediatricians, family practitioners, internists, occupational therapists, physiatrists, neurologists, nurses, radiologists, geriatrics, speech pathologists and others, to develop comprehensive efforts to prevent and treat aspiration pneumonia.

Definition

Aspiration is the process by which gastric or oral contents enter the laryngeal of lower sections of the tracheo-bronchial tree, causing cough, wheezing, intermittent dehydration, atelectasis, pneumonia, potential respiratory failure and death.

Risk Factors

Aspiration has been associated with laryngeal dysfunction, impaired swallowing mechanism, gastroesophageal reflux disease (GERD), periodontic diseases, feeding tubes and impaired neuromuscular status. These conditions are commonly associated with intellectual and developmental disabilities of various etiologies.

Manifestations

A cough associated with meals, wheezing, unexplained fevers, rumination, irritability (possibly related to pain from esophagitis), pneumonia and weight loss can be signs and symptoms suggestive of aspiration.

Precaution Strategies

Speech pathologists and occupational therapists have refined protocols and eating/feeding plans to encourage the development and/or rehabilitation of a safe swallowing mechanism. These include massaging techniques, use of technology and changes in textures, consistency, temperature and other food bolus characteristics. Videofluroscopy is commonly used by speech pathologists for assessment.

Body position or posture is important to facilitate swallowing. Neck hyperextension interferes with normal airway protection. Physical therapists have developed a specialized field that looks into these issues. There are special support devices, chair, and feeding utensils that can assist the individual with eating safely and, thus, reduce the risk for aspiration.

Poor or absent gag and cough reflexes are complications associated with various cerebral and brain stem injuries that can interfere with airway protection. This frequently results in the recommendation for alternative feeding routes such as gastric tube (G-tube) or jejunal tube (J-tube). The techniques for placement of these feeding tubes have been a matter of great research and discussion in the surgical literature. Oral-gastric tubes have been identified as increased risk factors for gastroesophageal reflux and, therefore, potentially causing aspiration. A fundoplication technique or wrap-around of gastric wall to the esophagus, creating a "tighter" sphincter is a surgical procedure frequently recommended when there is reflux identified and placement of a feeding tube is planned.

Multiple medications have been developed to abate GERD with some degree of success. These medications have as a purpose to accelerate gastric emptying and/or reducing the acidity of gastric secretions and, therefore, minimizing the potential for chemical esophagitis. Esophageal Ph monitoring, endoscopy and barium swallow are techniques

used to evaluate GERD. Other anti-reflux measures make use of gravity by elevating the head of the bed or increasing the "weight of food" or its thickness to prevent reflux.

Poor oral hygiene has the potential to increase the risk for aspiration due to the bacterial overload in oral secretions which, if associated with impaired swallowing, may result in trickling of the contaminated secretions into the tracheo-bronchial tree. Appropriate dental and gum care is effective in preventing these known complications.

Implications

Early identification of the risk factors and recognition of clinical signs and symptoms, have the potential to reduce the morbidity and mortality associated with aspiration. However, pulmonary problems are still the most common cause of mortality among people with severe to profound intellectual disabilities. Because aspiration is so commonly associated to eating and nutrition, alternative eating/feeding modes have quality of life implications that the practitioner needs to be sensitive to. It is important to support self-determination and honor individual, family or guardian wishes when providing care to this population. There are instances in which, after full disclosure of the risks involved with oral feedings, the choice is made to continue with oral feedings given the gratification obtained while eating. These (team) decisions are frequently based on respecting the sense of autonomy of the individual who is at risk for aspiration.

Individual Service Plan (ISP)

Persons who have problems with aspiration who have developmental disabilities most often have multidisciplinary teams providing supports, which can provide support to the physician. For instance, the ISP is a document, which represents a multidisciplinary assessment of an individual's needs expressed in a treatment plan modality. Individuals who have been identified as having eating problems are likely to have a "meal plan". This plan should specify the manner in which nutrition is to be provided, including measures that reduce the risk for aspiration. The physician can work with the individual's team in developing or using this document.

Below are listed resources available for evaluation and consultation of developmentally disabled individuals with suspected aspiration.

- Los Lunas Community Program has OT, PT, and speech pathologists that can assist with screening, evaluation and treatment recommendations.
- University of New Mexico Hospital Radiology Department and Speech and Language staff have combined experience in swallowing and eating problems.
- Lovelace Medical Center's Radiology Department also is experienced in diagnostic procedures. The Department of Pediatrics at UNM has worked out protocols for diagnosis and treatment of this condition.

For additional questions, you can call the Continuum of Care Project at 505/925-2350 or our toll free line at 1-877- 684-5259.

Recommended Readings

Lazarus, BA, Murphy, JB., Culpepper, L. Aspiration associated with long term gastric versus jejunal feeding: a critical analysis of the literature. Arch. of Physical Medicine and Rehab. 71(1): 46-53, 1990 Jan.

Blitzer, A. Approaches to the patient with aspiration and swallowing disabilities Dysphagia (3): 129-37, 1990.

Finicane, TE, Byrum, JP. Us of feeding tube to prevent aspiration pneumonia. Lancet 348(9039): 1421-4, 1996 Nov., 23