Dysphagia and Malnutrition in Neurodegenerative disorders

Erica Cassani, MD

Nutrition specialist, Parkinson Institute ICP Milan, Italy
Vice President Brain and Malnutrition Association

Accra, Ghana 15-18 September 2013
Definition of Dysphagia

Difficulty in swallowing food: solid, liquid or both.
• Presbyphagia
  (Physiological condition in the elderly)
• Many non neurological pathological conditions
  (oncology, gastroenterology...)
• Many neurological acute conditions
  (stroke)
• Neurological chronic diseases
  (Parkinsonism, Dementia and Motor Neuron Diseases)
Parkinson’s Disease & Parkinsonism

- Prevalence 30-80% of patients
- Advanced stages of Parkinson’s disease (PD), early stages of parkinsonism (PSP)
- Impairment in muscular coordination, muscular rigidity
Dementia

• Prevalence 45% of patients
• Causes loss of the conscious part of chewing and nonreflex swallowing, generally in advanced stages
• Loss of appetite, and/or food avoidance (coexistent mood disorders, e.g. apathy)
Motor Neuron Disease

• Nearly all the patients (rare in early stages)
• Rapidly progressive
• Muscular weakness
Main Symptoms

- Cough or choke before, during or after eating or drinking
- Trouble in moving food to the back of my mouth
- Taking a long time to eat a meal
- Changes in voice quality after eating or drinking
- Drooling (Sialorrhea)
Non Specific Symptoms

- Fever
- Anorexia
- Weight Loss
- Increased incidence of infections
- Delay in wound healing
Complications

- Malnutrition
- Aspiration Pneumonia (Ab ingestis)
- Increased co-morbidity and mortality
- Choking is rare
Diagnosis

- Clinical examination
- Specific questionnaire (Swallowing Disturbance Questionnaire for PD Patients)
<table>
<thead>
<tr>
<th>Questions</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you experience difficulty chewing solid food like an apple, cookie or a cracker?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Are there any food residues in your mouth, cheeks, under your tongue or stuck to your palate after swallowing?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Does food or liquid come out of your nose when you eat or drink?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Does chewed up food dribble from your mouth?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Do you feel you have too much saliva in your mouth; do you dribol or have difficulty swallowing your saliva?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Do you swallow chewed up food several times before it goes down your throat?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Do you experience difficulty in swallowing solid food (i.e., do apples or crackers get stuck in your throat)?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Do you experience difficulty in swallowing pureed food?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>While eating, do you feel as if a lump of food is stuck in your throat?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Do you cough while swallowing liquids?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Do you cough while swallowing solid foods?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Immediately after eating or drinking, do you experience a change in your voice, such as hoarseness or reduced?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Other than during meals, do you experience coughing or difficulty breathing as a result of saliva entering your windpipe?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Do you experience difficulty in breathing during meals?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Have you suffered from a respiratory infection (pneumonia, bronchitis) during the past year?</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SDC, Swallowing disturbance questionnaire.
Fibrolaryngoscopy:
Fiberoptic nasal endoscopy to evaluate:

• Cough reflex

• Laryngeal anatomy

• Laryngeal muscular activity
Videofluoroscopy: Videoradiographic method to study bolus transit during the oral and pharyngeal phases of swallowing
Treatment

• Sit upright with trunk and legs at a 90 degree angle.

• Tilt your head slightly forward

• Don’t talk with food in the mouth, minimize distractions in the area where the patient is eating

• Eat slowly
Treatment

• Use a tea spoon

• Lower your chin before swallowing

• Empty your mouth before eating another bite

• Cough gently or and swallow again before taking a breath
• Eat soft food
• Avoid food that require chewing (raw vegetables and fruit, bread, sticky meat)
• Prefer: tapioca pudding, platanus, boiled vegetables, soft fishes and meat
• Add oil to make the food more viscous (e.g. palm oil)
• Make the food homogeneous and creamy (avoid rice and prefer tapioca pudding)
• Reduce spicy food
In case of difficulty in swallowing liquid, thicken it, adding starch.
Nutritional status and dietary habits in Parkinson’s disease patients in Ghana

Michela Barichella M.D. a, Albert Akpali M.D. b, Momodou Cham M.D. c, Giulia Privitera a, Erica Cassani M.D. a, Emanuele Cereda M.D., Ph.D. a, d, Laura Iorio M.D. a, Roberto Cilia M.D. a, Alba Bonetti a, Gianni Pezzoli M.D. a

a Parkinson Institute, Istituti Clinici di Perfezionamento, Milan, Italy
b Korle Bu Teaching Hospital, Accra, Ghana
c Comboni Hospital, Sogaciaye, Ghana
d Nutrition and Dietetics Service, Fondazione IRCCS Policlinico San Matteo, Pavia, Italy

ARTICLE INFO

Article history:
Received 4 June 2012
Accepted 3 September 2012

Keywords:
Parkinson’s disease
Nutritional status
Diet
Constipation
Dysphagia

ABSTRACT

Objective: Dietary treatment is important for the management of Parkinson’s disease (PD). Our objective was to describe the dietary habits and assess the nutritional status of Ghanaian patients with PD. This study is part of a larger project, for which Ghana has been selected as a pilot country.

Methods: Fifty-five Ghanaian patients with PD and 12 healthy Ghanaian controls were recruited. We assessed nutritional status, investigated dietary habits, and assessed the prevalence of the nutritional complications of PD (e.g., constipation and dysphagia).

Results: The mean daily caloric intake was about 1200 kcal/d in patients with PD and in controls. The typical diet was based on semisolid foods, usually vegetable soups accompanied by cereal flour or root starch or sometimes chicken or fish. The intake of milk and its derivatives was low. The prevalences of constipation and dysphagia in patients with PD were 49% and 21%, respectively.

Conclusion: This study has yielded information that could be useful for the study of the management of PD and for the assessment of response to therapy.
The prevalence of constipation and dysphagia was significantly higher than in the controls but lower than the prevalence of these complications described in the literature (60% and 30–80%, respectively) [3,15]. We speculate that these findings may be due to the dietary habits of Ghanaians. Regarding constipation, they consume a large amount of fruits and vegetables every day (about 15–20 g of fiber a day per person), thus guaranteeing a regular intake of suitably large amounts of water (≥1 L/d). Regarding dysphagia, Ghanaians eat thick, creamy, semisolid food, such as thick soups, cereal puree, and pounded flour. Consuming food of this consistency is useful for the management of dysphagia [18].