LETTER

Comment on "Sarcopenia is an Independent Risk Factor for Dysphagia in Community-Dwelling Older Adults"

Hidetaka Wakabayashi[1]

To the Editor,

In a recent study published in this journal, Cha et al. [1] reported that sarcopenia was associated with increased risk of dysphagia in community-dwelling older adults having no common causes of dysphagia. I consider this finding particularly important, because sarcopenia is one of the common causes of dysphagia, and sarcopenic dysphagia is associated with poor swallowing function at discharge in older patients who require dysphagia rehabilitation [2]. Moreover, sarcopenia is positively associated with dysphagia in a recent systematic review [3]. However, I believe several concerns are noteworthy.

First, the authors did not use a reliable and validated 5-step diagnostic algorithm for sarcopenic dysphagia (Fig. 1) [4]. The authors diagnosed older adults with sarcopenia and dysphagia simultaneously as sarcopenic dysphagia. Sarcopenia and dysphagia are necessary conditions for diagnosing sarcopenic dysphagia in the 5-step diagnostic algorithm [4]. Moreover, patients who had a disease that was the obvious cause of dysphagia were not diagnosed with sarcopenic dysphagia. However, patients with stroke, brain injury, neuromuscular disease, head and neck cancer, or connective tissue disease in whom the main cause of dysphagia was considered to be age-, activity-, nutrition-, invasion-, or cachexia-related sarcopenia were included in sarcopenic dysphagia [4, 5]. Indeed, malnutrition after stroke can complicate and result in dysphagia caused by secondary sarcopenia [5]. Therefore, using the 5-step diagnostic algorithm for sarcopenic dysphagia is better to diagnose sarcopenic dysphagia.

Second, the authors did not report body mass index and nutritional status. A study investigating the risk factors for dysphagia in older patients who did not show dysphagia before hospitalization with nil per os found that low body mass index was a risk factor for developing dysphagia [6]. Moreover, malnutrition can cause dysphagia [7, 8]. Dysphagia due to low body mass index and malnutrition are considered to be sarcopenic dysphagia, because malnutrition is one of the causes of sarcopenia. Serum albumin is not a nutritional assessment index and not included in the Global Leadership Initiative on Malnutrition criteria for the diagnosis of malnutrition [9], although the authors included serum albumin for logistic regression analysis. Therefore, body mass index and nutritional status should have been reported and included in logistic regression analysis.

Recently, the Japanese Society of Dysphagia Rehabilitation, the Japanese Association of Rehabilitation Nutrition, the Japanese Association on Sarcopenia and Frailty, and the Society of Swallowing and Dysphagia of Japan published a position paper about sarcopenia and dysphagia [5]. The purpose of the position paper is to consolidate the currently available evidence on sarcopenic dysphagia and proposing consensus statements on the related mechanisms, diagnoses, treatments, and future perspectives. I hope that research on sarcopenic dysphagia will be conducted in various countries, because sarcopenic dysphagia is common in aging countries and partially preventable by rehabilitation nutrition [10].

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

✉ Hidetaka Wakabayashi
noventurenoglory@gmail.com

1 Department of Rehabilitation Medicine, Yokohama City University Medical Center, 4-57 Urafune-chou, Minami Ward, Yokohama 232-0024, Japan

Fig. 1 Diagnostic algorithm for sarcopenic dysphagia. People aged older than 65 years who can follow commands are eligible. After evaluating the sarcopenia and the deterioration of the swallowing function, sarcopenic dysphagia is classified by the absence of a disease that apparently causes dysphagia, such as stroke, brain injury, neuromuscular disease, head and neck cancer, or connective tissue disease. If a decrease in maximum tongue pressure is observed as a decrease in the swallowing muscle, it is diagnosed as probable sarcopenic dysphagia. If the maximum tongue pressure is high or measurement is difficult, it is diagnosed as possible sarcopenic dysphagia
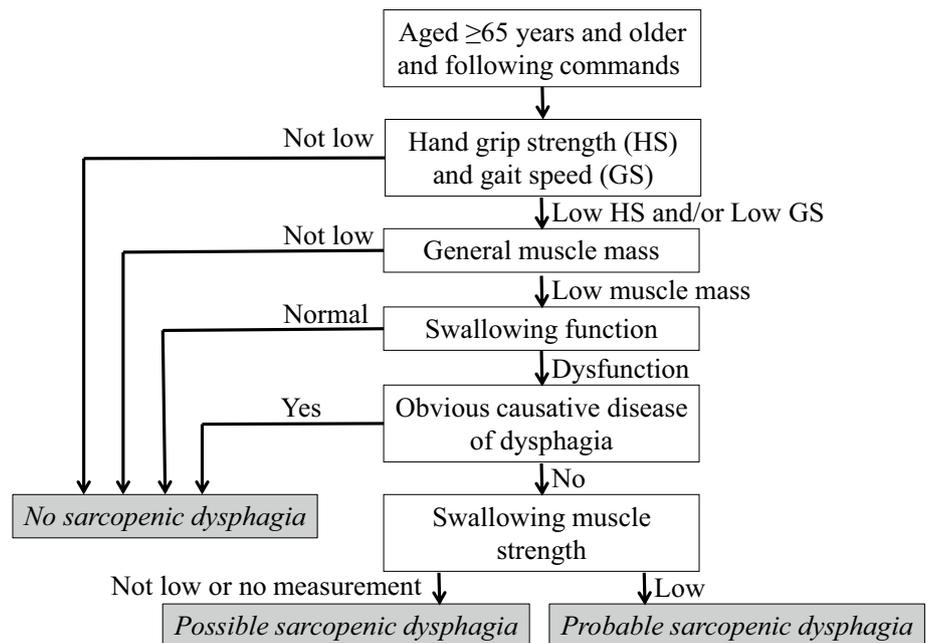
References

1. Cha S, Kim WS, Kim KW, Han JW, Jang HC, Lim S, Paik NJ. Sarcopenia is an independent risk factor for dysphagia in community-dwelling older adults. Dysphagia. 2019. https://doi.org/10.1007/s00455-018-09973-6.

2. Wakabayashi H, Takahashi R, Murakami T. The prevalence and prognosis of sarcopenic dysphagia in patients who require dysphagia rehabilitation. J Nutr Health Aging. 2019;23:84–8.

3. Zhao W-T, Yang M, Wu H-M, Yang L, X-m Zhang, Huang Y. Systematic review and meta-analysis of the association between sarcopenia and dysphagia. J Nutr Health Aging. 2018;22:1003–9.

4. Mori T, Fujishima I, Wakabayashi H, Itoda M, Kunieda K, Kayashita J, Nishioka S, Sonoda A, Kuroda Y, Yamada M, Ogawa S. Development and reliability of a diagnostic algorithm for sarcopenic dysphagia. JCSM Clin Rep. 2017;2:e00017.

5. Fujishima I, Fujiu-Kurachi M, Arai H, Hyodo M, Kagaya H, Maeda M, Mori T, Nishioka S, Oshima F, Ogawa S, Ueda K, Umezaki T, Wakabayashi H, Yamawaki M, Yoshimura Y. Sarcopenia and dysphagia: position paper by four professional organizations. Geriatr Gerontol Int. 2019. https://doi.org/10.1111/ggi.13591.

6. Maeda K, Takaki M, Akagi J. Decreased skeletal muscle mass and risk factors of sarcopenic dysphagia: a prospective observational cohort study. J Gerontol A. 2017;72:1290–4.

7. Veldee MS, Peth LD. Can protein-calorie malnutrition cause dysphagia? Dysphagia. 1992;7:86–101.

8. Hudson HM, Daubert CR, Mills RH. The interdependency of protein-energy malnutrition, aging, and dysphagia. Dysphagia. 2000;15:31–8.

9. Cederholm T, Jensen GL, Correia MITD, Gonzalez MC, Fukushima R, Higashiguchi T, Baptista G, Barazzoni R, Blaauw R, Coats A, Crivelli A, Evans DC, Gramlich L, Fuchs-Tarlovsky V, Keller H, Llido L, Malone A, Mogensen KM, Morley JE, Muscaritoli M, Nyulasi I, Nyulasi M, Pirlich M, Pisprasert V, de van der Schueren MAE, Siltharm S, Singer P, Tappenden K, Velasco N, Waitzberg D, Yamwong P, Yu J, Van Gossum A, Compher C, GLIM Core Leadership Committee. GLIM criteria for the diagnosis of malnutrition—a consensus report from the global clinical nutrition community. Clin Nutr. 2018. https://doi.org/10.1016/j.clnu.2018.08.002.

10. Nagano A, Nishioka S, Wakabayashi H. Rehabilitation nutrition for iatrogenic sarcopenia and sarcopenic dysphagia. J Nutr Health Aging. 2018. https://doi.org/10.1007/s12603-018-1150-1.

Hidetaka Wakabayashi MD, PhD