

Physical and Oral Frailty during the COVID-19 Pandemic: Chicken or Egg?

Akiko Omura¹, and Motomori Omura^{2,3*}

¹Ukima Dental Clinic, Tokyo, Japan

²Omura Dental Clinic, Saitama, Japan

³Department of Operative Dentistry, Nihon University School of Dentistry at Matsudo, Chiba, Japan

Received: December 09, 2021; **Accepted:** December 17, 2021; **Published:** December 21, 2021

R-Infotext Citation: Omura A, Omura M (2021) Physical and Oral Frailty during the COVID-19 Pandemic: Chicken or Egg? *COVID-19 Pandemic: Case Studies & Opinions* 02(05): 354–355.

Abstract

The concept of “oral frailty” is attracting attention in the context of achieving healthy longevity. Is oral frailty merely a symptom of physical frailty, or is oral frailty the beginning of physical frailty? In particular, there is a concern about the potential increase in both physical and oral frailty during the COVID-19 pandemic. Recently, the relationships among oral function and sarcopenia, nutrition, and aging have been evaluated. Although the causal relationship between physical and oral frailty has not been proven directly, we suggest that a close relationship exists between the two. Some patients have decreased oral function due to reduced muscular function throughout the body, whereas others have deteriorated daily function throughout the body due to oral weakness. Thus, further exploration toward answering this research question is needed.

Keywords: frailty, oral frailty, sarcopenia

Frailty and Oral Frailty: The Chicken-and-Egg Dilemma

Frailty is a condition in which the vulnerability to disease increases with age, and it is expected to improve by multimodal interventions. Though the criteria proposed by Fried *et al.* is a well-known diagnostic criterion for physical frailty [1], frailty is presently recognized as a concept that can include psycho-cognitive and social frailty, since the cause of vulnerability to the disease is not necessarily limited to deterioration of physical function.

Recently, oral frailty has received attention in the literature [2,3]. Poor oral status can significantly predict future physical weakening (i.e., new onsets of physical frailty, sarcopenia, and disability) [4]. Particularly with the COVID-19 pandemic, an increase in oral and physical frailty is a matter of concern [5,6]. Maintaining daily functions is critically important for healthy aging [7,8].

Is oral muscle mass related to oral function and what factors can contribute to the maintenance of both? Can improvement in oral frailty improve systemic frailty and prognosis? With a new technique to measure the oral muscle [9], the research on oral frailty is expected to advance in the coming years.

Although body muscle mass decreases with aging, muscle function cannot be explained solely by muscle mass. This is because the decline in motor function is greater than the decrease in muscle mass. To understand muscle function comprehensively, it is necessary to focus on the qualitative changes in muscle that precede the changes in muscle mass and strength. We look forward to the day when the question of which came first “the physical frailty or the oral frailty” is resolved.

Acknowledgment

We would like to thank Dr. Takuya Omura (Tokyo Metropolitan Geriatric Hospital), Mr. Yuya Omura (Nihon University), and Ms. Reia Omura (HIYOKO Corporation, Tokyo, JPN) for their assistance.

References

1. Fried LP, Tangen CM, Walston J, et al. (2001) Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci* **56**: M146–56. [\[View\]](#)
2. Morley JE (2020) Editorial: Oral Frailty. *J Nutr Health Aging* **24**: 683–84. [\[View\]](#)
3. Hakeem FF, Bernabe E, Sabbah W (2019) Association between oral health and frailty: A systematic review of longitudinal studies. *Gerodontology* 2019; **36**: 205–15. [\[View\]](#)
4. Tanaka T, Takahashi K, Hirano H, et al. (2018) Oral Frailty as a Risk Factor for Physical Frailty and Mortality in Community-Dwelling Elderly. *J Gerontol A Biol Sci Med Sci* **73**: 1661–67. [\[View\]](#)
5. Omura A, Omura M (2021) Dental Care during the Coronavirus Disease 2019 (COVID-19) Pandemic: Preventing Oral Frailty and COVID-19 Infection. *COVID-19 Pandemic: Case Studies, Commentaries, and Opinions* **02**: 223–25. [\[View\]](#)
6. Omura T, Araki A, Shigemoto K, Toba K (2020) Geriatric practice during and after the COVID-19 pandemic. *Geriatr Gerontol Int* 2020; **20**: 735–37. [\[View\]](#)
7. Omura T, Tamura Y, Sakurai T, et al. (2021) Functional categories based on cognition and activities of daily living predict all-cause mortality in older adults with diabetes mellitus: The Japanese Elderly Diabetes Intervention Trial. *Geriatr Gerontol Int* **21**: 512–18. [\[View\]](#)
8. Omura T, Ito H, Araki A (2021) Which is a better predictor for adverse events in older adults with diabetes, frailty or higher-level functional incapacity? *Geriatr Gerontol Int* **21**: 541–42. [\[View\]](#)
9. Murakami M, Iijima K, Watanabe Y, et al. (2020) Development of a simple method to measure masseter muscle mass. *Gerodontology* **37**: 383–88. [\[View\]](#)

***Corresponding author:** Prof. Motomori Omura, D.D.S., Ph.D, Omura Dental Clinic, 2-7-17 Kawaguchi, Saitama 332-0015, Japan, Department of Operative Dentistry, Nihon University School of Dentistry at Matsudo, 2-870-1 Sakaecho-Nishi, Chiba 271-8587, Japan;

Tel: +81-48-256-4618;

Fax: +81-48-254-3890;

E-mail: motomori.omura@gmail.com