

水口俊介教授最終講演会

2024.3.23

18:00～

抄録



水口 俊介

平成 30 年 4 月 20 日、日本歯科医学会より各専門分科会、認定分科会に対して「2040 年への歯科イノベーションロードマップ」の作成について依頼がなされた。わが国の社会問題として大きく取り上げられている「2040 年問題」に向けて、歯科はどのように展開していくかのロードマップを作成し、社会に示すもので、それぞれの分科会の専門分野がこれからの達成目標とする項目を提示し、歯科医学会の重点研究委員会でまとめるというものであった。これを機に日本老年歯科医学会は学術委員会にて議論し、今後の活動の柱として、高齢者の口腔健康管理（口腔衛生管理と口腔機能管理）、地域包括ケアシステムにおける歯科の役割の確立、終末期医療における歯科の貢献を設定した。今後の老年歯科医学はこのイメージを中心に進化していくと思われるが、このイメージの中で我々高齢者歯科学分野がどのような役割を果たしてきたかについて述べさせていただく。

まず、高齢期における口腔機能低下について学会見解論文をまとめ、「口腔機能低下症」の診断基準の初期値を決定した。これは 2013 年ころから学会内で議論されてきたが、平成 26 年にオーラルフレイルの概念が初出されたことを受け、「口腔機能低下症」は、オーラルフレイルの進行の停止と回復を歯科医療によって行うためのいわゆる病名として議論された。最近、日本老年医学会、日本老年歯科医学会、日本サルコペニア・フレイル学会の協議によりオーラルフレイルの定義がなされ、それに基づいてさらなるエビデンスの収集や関連する政策が実施されるであろう。

当分野は創立以来全部床義歯補綴を担当している。全部床義歯は咬合高径、下顎位、咬合平面、咬合様式を 1 組の装置で回復させるものであり、その学理は歯科補綴学の基礎であると同時に基本的な術式は変わっていない。この最適と思われている方法が最適なのか、もっと簡単な方法でも変わりはないのではないかと。義歯を作ることは咀嚼機能を改善し栄養摂取を良好にするためであるが、義歯を作るだけでそれは達成されているものなのかどうか再確認を行った。また、2002 年に下顎無歯顎の補綴方法の第一選択は 2 本埋入のインプラントオーバーデンチャー（IOD）であるというマギルコンセンサスが発表された。われわれは、「IOD は適切な全部床義歯+2 本のインプラント」と考えているため、IOD に関する様々な臨床研究や模型・シミュレーション実験を実施してきた。さらに、高度に吸収した顎堤に対

応するための軟質裏装材、義歯安定剤についても検討を進めてきた。特に、ADA では推奨されていないが、相当数使用されているホームリライナーについて、短期間の使用、使用方法の確実な指導があれば、在宅義歯患者のように歯科医療を受けにくい人たちにとっても短期的ではあるが快適な義歯使用をもたらすことができるという仮説のもとに検討を進めている。

さて、8020 達成者が5割を超えた現在、高齢者におけるう蝕の罹患率が上昇している。唾液が減少し、歯肉の退縮により歯根が露出し、プラークコントロールがわずかに低下した高齢者では根面う蝕が多発するのは仕方のないことかもしれない。在宅歯科診療の現場では歯冠が破折し歯根のみが抜歯もされず残っている顎堤を見る機会が多い。対策としてフッ素の適用が保険診療でも認められ、歯磨剤のフッ素含有量も 1450ppm まで増加したが、デイリーユースとしての歯磨剤のフッ素濃度をもっと上昇させることが重要であると考え。むしろ、購入には歯科医師の処方性が必要で、歯磨剤のフッ素と歯科医院でのフッ素塗布を定期的な口腔健康管理の中に組み込むことが今後必要であると考え。われわれは義歯患者の口腔内の環境改善を意図してフッ素を効果的にリリースする S-PRG を含有させた軟質裏装材や義歯安定剤の開発を行った。

今後増加する要介護高齢者を含んだ高齢者の口腔を良好に保つためには、解決しなければならない問題が山ほどある。現在、解決法が見えてない問題も多いが、健康長寿社会実現における歯科の責任を果たすために今後も奮闘を覚悟しなければならない。

(略歴)

- 1983年 3月 東京医科歯科大学歯学部歯学科 卒業
- 1987年 3月 同大学大学院歯学研究科 修了
- 1989年 4月 同大学歯学部高齢者歯科学講座助手
- 2001年 4月 同大学大学院医歯学総合研究科口腔老化制御学分野講師
ロマリンダ大学歯学部 Visiting Research Professor
- 2005年 2月 同大学大学院医歯学総合研究科高齢者歯科学分野助教授
- 2008年 3月 同大学大学院医歯学総合研究科全部床義歯補綴学分野教授
- 2013年 4月 同大学大学院医歯学総合研究科高齢者歯科学分野教授
- 2020年 4月～2022年 3月 同大学歯学部附属病院長
- 2020年 6月～2024年 6月

**International Symposium of the
Department of Gerodontology and
Oral Rehabilitation**

2024.3.23

19:00~

abstract

Title: Evaluation of Oral Function

Name: Yuriko Komagamine



Oral Presentation Abstract

In recent years, the aging rate of Japan's population exceeded 28 %, and our country was entering in super-aged society. Frailty among older adults is a growing problem in Japan. With aging, people slowly become weak due to a gradual decline in mental and physical function. As a result, their daily life independence level gradually decreases and eventually, they go into the status requiring long-term care. Therefore, the progression of frailty leads to the need for long-term care, which is an urgent issue for Japan, where the number of older adults requiring nursing care is already increasing. Along with frail, oral frailty is also attracting attention as a problem. The concept of oral frailty is giving people a warning not to fall into the negative chain as follows: neglecting slight declines in the mouth and leaving the conditions as they are without taking appropriate measures eventually leads to deterioration of oral function, impairment of eating function, and even deterioration in mental and physical functions. Oral frailty is also suggested to appear in the early stages of frailty and be related to life expectancy.

Moreover, oral hypofunction was proposed by the Japan Society of Gerodontology in 2016, and since then, it has become important for dental professionals to measure and manage oral function in older adults. Oral hypofunction is diagnosed by a presentation of 7 oral signs or symptoms: oral uncleanness; oral dryness; decline in occlusal force; decline in motor function of tongue and lips; decline in tongue pressure; decline in chewing function; and decline in swallowing function. The Japan Society of Gerodontology also specifies the measurement method for each of the seven items. In this lecture, I would like to talk about the evaluation of oral function.

Short Biography

Yuriko Komagamine completed both dental degree (DDS:2006) and doctoral degree (PhD:2011) at Tokyo Medical and Dental University (TMDU). She became a Dental Resident in 2011, an Assistant Professor in 2014, a Junior Associate Professor (Career Track) in 2021 at TMDU.

Title: Utility of the chewing gum method to evaluate the masticatory performance and general health in older adults

Name: Yohei Hama



Oral Presentation Abstract

This study was designed to address the vital relationship between masticatory performance and the health of Japan's aging population. The rising number of older adults requiring long-term care in this super-aged society is a public health concern. The concept of oral hypofunction, promoted by the Japanese Society of Gerodontology, underscores the need to maintain optimal oral function to prevent long-term care dependence. Oral hypofunction evaluation encompasses a comprehensive oral function assessment, including masticatory performance, tongue pressure, and swallowing function. Numerous studies highlight the impact of masticatory performance on frailty, cognitive function, nutritional intake, and more, emphasizing the oral function role in preventing long-term care needs. We discuss various evaluation methods for masticatory performance, distinguishing between direct and indirect, as well as objective and subjective approaches. A key innovation is the "mastication check gum," a color-changeable chewing gum that simplifies masticatory performance assessment, making it user-friendly and suitable for extensive surveys by healthcare professionals. Its broad applicability is confirmed across different populations. The study explores the positive effects of gum-chewing training in enhancing masticatory performance, particularly in older adults. Dental treatments and exercises show promise in improving masticatory performance. This study highlights the essential link between masticatory performance and the health of older adults. The mastication check gum method proves to be a versatile and accessible tool for assessing masticatory performance, while gum-chewing training holds promise for improving masticatory performance. Future research should investigate the long-term impact of enhanced masticatory performance on overall health, prompting further exploration of this vital connection.

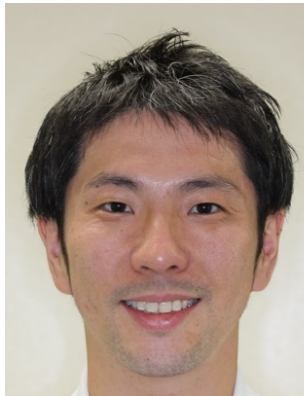
Short Biography

Yohei Hama completed both dental degree (DDS:2008) and doctoral degree (PhD:2013) at Tokyo Medical and Dental University (TMDU). He became a Dental Resident in 2013, a Project Assistant Professor in 2014, and an Assistant Professor in 2019 at TMDU. He is currently teaching prosthodontics

and working in the prosthodontics clinic at the University Hospital of Tokyo Medical and Dental University.

Title: The role of dental professionals in Nutrition Support Teams

Name: Hiroyuki Suzuki



Oral Presentation Abstract

Multidisciplinary medical care in various fields, such as stroke rehabilitation, perioperative oral management, and palliative care, aims to improve the quality of medical care and life through early detection of disease, promotion of recovery, and prevention of serious illness. In addition, multidisciplinary care reduces the burden on medical personnel by improving medical efficiency and safety through the standardization and organization of medical care. In multidisciplinary medical care, physicians, nurses, pharmacists, dietitians, and other professionals should provide optimal interventions for each patient while utilizing their respective expertise.

The Nutrition Support Team (NST) is a multidisciplinary team responsible for the nutritional management of hospitalized patients. Intervention through NST has been reported to shorten the hospital stay, reduce medical costs, and improve patients' nutritional status and quality of life. The NST has been introduced in many hospitals. Recent studies have shown that many hospitalized patients eligible for NST have deteriorated oral health status, thus requiring oral health management, including specialized oral care and dental treatment. This report suggests the necessity for active participation of dental professionals in the NST.

In this lecture, I will introduce the actual situation of the oral health status of patients admitted to acute care hospitals who are the target of NST, the relationship between the oral health status and nutrition intake method, and the effects of implementing multidisciplinary oral health management, including dental professionals. In addition, since the participation of dental professionals is often limited in multidisciplinary collaborative medical care, we will discuss indicators and measures to realize the efficient and effective oral health management for inpatients under the limited medical resources.

Short Biography

Hiroyuki Suzuki obtained his DDS in 2011 and his PhD in 2017 at Tokyo Medical and Dental University (TMDU) in Japan. In 2022, he became Assistant Professor at Tokyo Medical and Dental University (TMDU) and since then has been teaching geriatric dentistry and working in the special care dentistry clinic at the Dental Hospital of TMDU.

Title: Dental materials research for geriatric dentistry

Name: Masanao Inokoshi



Oral Presentation Abstract

Nowadays in Japan, approximately 30% of our population is over 65 years old. In our research group, we have been focusing on dental materials, such as dental ceramics, bioactive dental materials, and restorative materials for root caries. We try to improve the oral environment of older adult patients using dental restorative materials.

Regarding dental ceramics, zirconia-based restorations, including both ceramic-veneered zirconia and full-contour zirconia, have been increasingly popular as aesthetic restorative materials in dentistry. Among them, resin-bonded fixed dental prostheses (RBFDPs) can be minimally invasive and would be a good choice for older adult patients as well. We assessed several surface treatment methods to obtain durable bonding to zirconia ceramics. In addition, new technology related to zirconia ceramics has been investigated as well. With regard to bioactive dental materials, we conducted collaboration research with Shofu and investigated dental materials containing surface pre-reacted glass ionomer (S-PRG) filler. Moreover, restoration of root caries is one of the most important themes for older adult patients. We have investigated novel restorative materials that contain antimicrobial agents.

In this presentation, I will summarize the results from our research group and present future perspectives on dental materials research.

Short Biography

Masanao Inokoshi obtained his DDS in 2006 and his first PhD in 2011 at Tokyo Medical and Dental University (TMDU) in Japan. In 2010, he got the Flemish scholarship for Japanese students and moved

to KU Leuven (University of Leuven) in Belgium to conduct his second PhD training. During his stay in Leuven, he studied under Prof. Bart Van Meerbeek who is the head of KU Leuven BIOMAT research cluster. He obtained his second PhD in 2014 at KU Leuven (University of Leuven). In 2015, he became Assistant Professor at Tokyo Medical and Dental University (TMDU). He was promoted to Junior Associate Professor in 2021, and to Associate Professor at Tokyo Medical and Dental University (TMDU) in 2022. He is currently teaching geriatric dentistry and working in the prosthodontics clinic at the University Hospital of Tokyo Medical and Dental University.

Title: Digital dentures in super aged society

Name: Manabu Kanazawa



Oral Presentation Abstract

In recent years, the aging rate of Japan population exceeded 25 %, our country was entering in super aged society. Because of the super aged society, the demand of complete denture is still increasing, and the age of edentulous patient become higher. Additionally, because of aging edentulous patients, the difficulty of complete denture become higher than ever, and the needs of visiting treatment for the patients in need of nursing care is raising. Therefore, we need the new method to resolve these problems.

Computer-aided design and Computer-aided manufacturing (CAD/CAM) technologies were applied to the field of complete denture prosthodontics, and the digital complete denture technology was rapidly developed in recent years. Several commercial systems were launched in the world, and many studies about digital complete denture were reported in the past few years. Not only about laboratory procedures, but also about chairside work was reported in some studies.

The digital technologies have the potential to contribute solving these problems of aged society. The presentation will introduce our procedure of digital complete denture, which are scanning the maxillary and mandibular edentulous jaws using an intraoral scanner, scanning the silicone jig with the maxillary and mandibular jaws while keeping the jig between the jaws, and newly developed milled denture systems using custom discs.

Digitalization of the fabrication process can simplify the complicated treatment and laboratory process of conventional methods. In addition, the proposed method enables quality control regardless of the operator's experience and technique. As the world will also face to the super aged society in the future, this lecture and discussions will contribute to the aged society.

Short Biography

Manabu Kanazawa is Professor and chairman of department of digital dentistry at Tokyo Medical and Dental University (TMDU) since 2021. He serves as acting director of Institute of Global Affairs at TMDU.

He graduated from TMDU and received his Ph.D. degree in 2006. He worked as faculty of Gerodontology and oral rehabilitation at TMDU from 2006 to 2021. He has been a visiting professor in Oral Health and Society, McGill University, Canada from 2013 to 2014. His research targets are edentulous patients and digital dentistry.