

1. 演題タイトル (英語)

Dental treatment guideline for the elderly with dementia: The JSG protocols

2. 演題抄録 (英語) 250~300 字

The rapidly aging society and increase of people with dementia seen in Japan is unprecedented in the world. The Japanese society of gerodontology (JSG) has been proactively working in pioneering research regarding the association between dementia and dental care in elderly people.

In 2015, the Ministry of Health, Labour and Welfare of Japan adopted a “Comprehensive Strategy to Accelerate Dementia Measures (called New Orange Plan)” as a new strategy to bolster measures against dementia. This plan documents the implementation of improvements in training for dementia support among dentists.

Based on the plan, JSG made “A statement of position for dental care for the elderly peoples with dementia”, 2015. Our mission is to draft the guidelines for dental care for elderly peoples with dementia based on evidence and to promote the maintenance of dignity and quality of life in dementia patients. Based on the presented background, the previously stated mission statement for dental care for elderly people with dementia is representative of the current position of JSG.

Furthermore, JSG created the dental treatment guideline for the elderly peoples with dementia in 2018. The contents of the guidelines will be in accordance with the existing “Providing health care and long-term care services in a timely and appropriate manner as the stages of dementia progress” shows in the Japanese Dementia Strategy (New Orange Plan).

This presentation will include the assertions made above, as well as information on current dental care and oral function management in elderly patients with dementia in Japan.

3. プロフィール写真



4. プロフィール (所属・ポジション)

Hirano Hirohiko DDS ,

Director, Dentistry and Oral Surgery, Tokyo Metropolitan Geriatric Hospital (TMGH)

Theme Leader , Oral health and Nutrition Research, Tokyo Metropolitan Institute of Gerontology (TMIG)

Title:

Swallowing problems in disabled adults with neurodevelopmental disorder

Abstract:

This study aimed to investigate dysphagia problems in adults with neurodevelopmental disorder (ND). Dysphagia rehabilitation has been performed by multiple medical professionals over several decades in Japan. Our clinic, which is the first university-affiliated medical facility specialized in speech/swallowing disorders in Japan, has been operating for 9 years since its establishment in autumn 2012. The members of our group were dentists, dental hygienists, speech therapists, and dietitians. We coordinated on dysphagia rehabilitation in our patients. Our group has dealt with gaining information on effective therapies for disabled people.

Currently, the number of new patients is more than 10,000. A quarter of them are disabled children. Most of their symptoms are associated with Down syndrome, cerebral palsy, autism disorder, and intellectual disabilities. We also have adult patients with cerebral vascular disease, Parkinson's disease, dementia, and aftereffects of oral cancer. In this presentation, I make a point that disabled adults with ND have increased because they could live longer than before due to advancement of medicine in Japan. This is good news, but on the negative side, society cannot deal with them appropriately.

We should know the characteristics of patients with dysphagia to put an appropriate rehabilitation method into practice as the general theory of dysphagia rehabilitation is quite different between disabled children and adults who develop a typical process. Improvement of eating function is important for using developmental therapy, not only for disabled children but also for disabled adults with ND. We often perform the therapy using the direct/indirect training called the Vangade method, which was introduced by Prof. Kaneko in 1977 from Denmark. Dental professionals should consider treatment and care for dysphagia in disabled adults with ND for dysphagia rehabilitation according to their characteristics.

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The Importance of Home Dental Care

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Objective: The need for home dental care is becoming widespread, and the importance of medical-dental collaboration and transdisciplinary team approach in home care is being recognized, but the effects of home dental care have not been verified. Therefore, in this study, we examined what can be done by the involvement of dentistry in patients at home.

METHODS: Of 272 elderly patients seen at a home dental care from April 2017 to March 2020, 239 patients who had oral intake were included in the study. They were divided into a regular food group and a non-regular food group, and their age, nutritional status, ADL, and swallowing function were compared. In addition, the nutritional status and ADL at the time of the first visit and one year later were compared among the three groups: the group with a maintained diet modification, the group with a decreased diet modification, and the group with an improved diet modification. Factors influencing hospitalization and death over a 3-year period were also examined.

Results and Discussion: The patients was 95 males and 144 females, with a mean age of 84 ± 9 years. Nutritional status, swallowing function, and ADL were lower in the non-regular food group. The results of a comparison of changes in diet modification within one year showed that the decreased group had lower ADL and nutritional status at the time of the first visit. In the non-regular food group, 26% had improved diet modification, and the improved group had a better nutritional status after one year than the decreased group. During the 3-year follow-up period, 53 patients experienced at least one hospitalization. A proportional hazards analysis showed a significant difference in changes in diet modification, with a hazard ratio of 6.53 between the maintenance and decline groups. In addition, 55 patients died during the 3-year observation period. Proportional hazards analysis showed a significant difference in changes in diet modification with a hazard ratio of 3.76 between the maintenance and decline groups. Changes in diet modification are a risk factor for hospitalization and death, and it is necessary to intervene in dentistry while predicting the risk to prevent hospitalization and sudden changes. Moreover, it is important to provide dietary support based on functional assessment rather than ending with dental treatment.

Title of presentation: Examination about simplification of diagnosis by selecting measurement items for oral hypofunction

Abstract:

Previous studies reported that oral functions play a very important role in extending healthy life expectancy. In 2016, the Japanese Society of Gerodontology proposed “oral hypofunction” as the stage where dental treatment can be performed and lead to recovery before oral dysfunction occurs. In Japan, management of oral hypofunction is covered by insurance. However, there are still few dental clinics that manage oral hypofunction. One of the reasons is that there are many measurement items for diagnosis of oral hypofunction. In our research, we investigated a method to simplify the diagnosis in order to spread oral hypofunction. In my presentation, I would like to introduce oral hypofunction and the method of simplification of diagnosis for oral hypofunction.

Oral hypofunction is defined as the state when over 3 items of 7 measurement items (poor oral hygiene, oral dryness, reduced occlusal force, decreased tongue-lip motor function, decreased tongue pressure, decreased masticatory function, and deterioration of swallowing function) fall below the criteria. In order to reasonably reduce the 7 items and consider simplification of diagnosis, we divided the 7 items by factor analysis using data of community dwelling elderly people (n=537, 78-80 years old). As a result, the 7 items were divided into 4 groups. Next, the degree of contribution of the 7 items to the current diagnosis criteria of oral hypofunction was calculated by discriminant analysis, and the one that most contributed to the current diagnosis of oral hypofunction was selected for each group. When the simplified diagnosis of oral hypofunction is defined as the state when over 2 of the 4 selected items are below the criteria, the sensitivity and specificity to the current diagnosis of oral hypofunction are 82% and 79%. This result showed that a simple diagnosis system might be used as an alternative to the current diagnosis of oral hypofunction.

Profile photo:



Profile

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Position: Assistant Professor

List of TAGD representatives for the academic exchange program - "The 2nd JSG-TAGD Summit of Gerodontology, on 2021.03.14. (Sun.)"

Theme topic of the 2021-Summit:

"Current Challenges vs. Dilemma of the Gerodontology in the Frail Elderly".
(現今高齡者口腔醫學的挑戰與難題")

Long-talk category:

1) Prof. Min-Huey Chen 陳敏慧 教授/醫師

The contemporary pathway of the regenerative medicine in gerodontology for 2020's:
a Taiwan propective ("再生醫學"在高齡口腔醫學的 2020's 現況及應用趨勢)

Abstract

Due to the development of regenerative medicine, applications of stem cells, growth factors and biomaterials for tissue regeneration had been widely investigated. Dental stem cells had been isolated for regeneration including bone regeneration and neural regeneration. In our studies for tooth regeneration, regenerated tooth with complete root formation including dental pulp, dentin, cementum and periodontal ligaments in mini pig was demonstrated by isolating and loading the tooth germ cells in gelatin- chondroitin-hyaluronan-tri-copolymer scaffolds. For salivary gland regeneration, by using irradiated mice as animal model and application of nanoparticles for labeling of BMMSCs, transdifferentiation of BMMSCs into acinar like cells are able to be displayed and applied for salivary gland regeneration. The results indicated that by transplantation of bone marrow stem cells or acinar like cells into the irradiated mice with damaged salivary glands, the body weight, glands weight and saliva production of the mice were shown to be increased and closed to normal control. It was found that cell therapy with BMMSCs for salivary gland regeneration is possible. Recently, immune cell therapy and stromal vascular fraction isolated from adipose tissue had been applied for clinical application. These new techniques might also be a trend in the future.

Conclusion: Stem cells and cell therapy have potentials for oral tissue regeneration including bone regeneration, tooth regeneration, neural regeneration and salivary gland regeneration and it is worthy for further study and development for clinical applications for the elder.

2) Dr. Yen Chun Liu 劉彥君 主委/助理教授醫師

Current challenges of gerodontology in the frail elderly: a perspective on the oral-systemic links of Taiwan

(體弱高齡者在口腔健康與系統性疾病的關連性本質: 臺灣之現況和挑戰)

Abstract:

Oral-health care and medical treatments have been challenged by the growing epidemic in the frail elderly with complex systemic disorders and dilemmas of the

multi-comorbidity associated with ageing (i.e., geriatric syndrome), whose scientific links may vary considerably. We employed the extracts of some 26 regional & national reports/surveys from central health-care agencies of Taiwan via outcome measures of the systemic diseases, etc. and clinical co-variables to summing up the critical risks assessed upon the subjects' oral-systemic medical conditions and links in the frail geriatric over comorbidities vs. mortalities in general. In Taiwan, our frail elderly have been impeded by severe burdens of systemic illnesses with high incidences ~2016, as only <12% being completely healthy; in parallel to top-rated DM-associated renal dialysis, G-I (e.g., colon, breast, lung) cancers, naso-gastric tubing in long-term care facilities and the psychiatric/stress medications, etc., where they collectively signified worsened rates of oral health problems (i.e., caries>90%, periodontal diseases>80%, missing teeth >86% and dysphagia/chewing difficulty >30%, etc.). Thus far, we summarized to address: i) the clinical manifests & medications associated with systemic disorders, osteoporosis, heart diseases and strokes, DM and MRONJ (i.e., 85% of them taking >5 prescribed drugs), ii) notably, 1/4~1/3 vs. 30~40% of the frail elderly carried high rates total edentulism vs. untreated oral diseases, respectively, regardless their socio-economic status, iii) specific bone/vascular-sparing manifests linked to diabetes, dialysis and bleeding complications rendering the outcomes from dental treatments often ineffective. Thereby, it is clear that modern oral health-care and therapies involve more than the concerning matters addressed above; importantly, we must carefully incorporate the risk analyses on outcome measures for the frail elderly regarding oro-systemic medical links to ensuring the individual subject's safety & capacities, so that the long-term prognoses and outcomes be more favorable.

Short-talk category:

3) Dr. Sui-Chieh Mei 梅遂傑 醫師

Critical vs. risk assessments of the pulpal & periapical pathologies for the frailer elderly: A status quote (現行"體弱高齡者"-牙髓及根尖病變之急迫與風險性評估)

Abstract:

The high prevalence of root caries or/and untreated caries in the elderly is a significant oral health concern, which underlines a potential threat, esp., to the frail ones with multi-comorbidities. It is suggested that (pre)-frailty, oral hypo-function, difficult in chewing & swallowing, the conditional uses of dental prostheses, dysphagia, malnutrition, dementia, multi-comorbidity & poly-pharmacy, progressive geriatric syndrome, etc., interactively contribute to the poorer quality of oral health, thus leading to systemic losses of functions and subsequent survival capacity, gradually. Unattended or untreated root caries and pulpal diseases vs. poorer oral hygiene/health-related dental microbial infections may be neglected by the frail elderly or by the care-givers over time; thereby, in turn they trigger acute stresses or chronic disorders (i.e., pneumonia), resulting in irreversible outcomes. Factors that influence the formation and evolution of microbial communities include

selective adherence to oral tissues or tooth surfaces, specific binding of the inter-microbiome interactions leading to alteration of the local environment and the subsequent road to oral vs. systemic diseases. This short-talk will address some phenomenon and key issues involved in untreated tooth decays or root caries in the frail elders and the sub-categories, partially from population datasets of Taiwan, to highlight the major oral vs. systemic health parameters that are considered critical to maintain the favorably balanced risk assessment for the overall general health acquired to be established in the geriatrics.

4) Dr. Kuan-Yu Chu (朱觀宇 主委/醫師)

Pros-&-cons of the subsidy program on removable dentures for the elderly in Taiwan
(台灣在輔助老人活動假牙實施計劃下之優缺點評估)

Abstract

Introduction: Taiwan's population is aging rapidly. Elderly adults with missing teeth require dental rehabilitation to maintain good oral health. In this cross-sectional study, we investigated the demographic characteristics of older Taiwanese adults who received a removable denture subsidy, as well as the type of denture obtained and related factors. **Methods:** We administered a survey and conducted oral examinations among elderly patients of the Geriatric Dentistry clinic of Taoyuan Hospital who had participated in a removable prosthesis subsidy program during 2015–2018. We investigated patients' demographic characteristics using descriptive statistics and used logistic regression to determine whether age and sex were independent predictors of edentulous status and a need for complete dentures. We also examined the relationships between denture type and related factors. **Results:** In total, 423 participants (mean age 76.3 years, standard deviation 7.55; 54.4% men) completed the subsidy application process and obtained a removable dental prosthesis. In total, 150 (35.5%) participants applied for single-arch restoration. A removable partial denture (RPD) was the most common type for single jaws, and an RPD and full dentures were the most common for both arches. Logistic regression indicated an effect of age, but not sex, on denture type and edentulous status among 273 subsidy applicants for both arches (odds ratio: 1.04 per year of age, 95% confidence interval: 1.00–1.08, $P=0.032$). **Conclusions:** This study confirms that county and municipal governments in Taiwan should regularly review and improve dental subsidy programs, to lift barriers to obtaining removable dentures among older people who need them.