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THE HONG KONG 香港醫訊 MEDICAL DIARY

VOL.28 NO.6 June 2023

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The Cover Shot



The photo is a tooth slice of a human lower molar taken with cross-polarised light. The rainbow colours from the tooth slideshow birefringence - an optical property of enamel under polarised light.

In photography, we often use a polarising filter placed in front of the lens to suppress reflection and glare. In this photo, two polarising filters were used to create cross-polarised light to show birefringence.

Dentists literally see enough teeth in their daily work. Luckily, creativity strikes both my hobby and my career to make this shot. Photography is fun. Pay more attention to the little details around us; with the advance of imaging technology, we can all take great photos to appreciate life.

I made a YouTube video describing the detailed procedures of making this photo. Follow the link to explore:



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Oral Health And Our Body

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If the term dentistry was mentioned twenty years ago, what comes to the mind of many are very likely to be fillings, extractions, dentures, or worse, the dreadful sounds from the dental drills. Decades have passed for oral health to find its place in the big jigsaw puzzle of health. Since 2009, WHO has been advocating the integration of dental care into primary healthcare services owing to the fact that oral health is an integral part of general health. Thanks to the dedicated efforts from different sectors on oral health promotion, research over the recent years have also helped to consolidate the fact that many aspects of oral health are highly correlated to the general health and well-being of an individual. For example, now it is widely understood that oral hygiene status and oral diseases like periodontal disease share various common risk factors with other non-communicable diseases such as diabetes and coronary heart diseases. Effective management of periodontal diseases is also shown to be helpful in the control of diabetes and in reducing the risk of ASCVD.

Primary Health Care has become one of the top agendas of health policy discussions in recent years in Hong Kong, and dental healthcare is undeniably one of the key topics on the table. Oral health is one key integral part of general health, and many vulnerable groups are in desperate need of affordable dental services. Understanding how oral health is related to general health is never as important, as it will shine a light on how different health professions can come together to work and meet the needs of the public. It also provides policymakers with essential evidence to steer their public health policy agenda. By understanding the pathway to good oral and general health, we will be able to ease the healthcare burden of our community through effective prevention strategies and prepare ourselves for future challenges, such as the foreseeable substantial increase in our senior population.

Prevention and patient empowerment are two very important notions in primary health care. For oral health, these can be done through oral health promotion strategies such as promoting healthy eating, teaching effective oral hygiene habits, effective use of fluoride and rendering preventive dental treatments more accessible. Applying these strategies in our primary healthcare services will definitely help improve the oral health as well as the general health of our population by reducing preventable dental diseases like dental cavities, periodontal diseases and edentulism in the long run.

In this dental issue of Medical Diary, we are glad to be joined by distinguished medical and dental experts from different specialties to share their knowledge and insights on various contemporary topics relating to dentistry and oral medicine. We hope that through collaborations between different health sectors in both the research and clinical field, we will be able to nurture a common ground for communication and stimulate more intellectual discussion among different health professions on topics relating to oral and general health.

Finally, we would like to express our gratitude to all the authors and the publication committee of Medical Diary, as well as all those who gave their support to the publication of this dental issue of Medical Diary. Please enjoy the issue!

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How Can Periodontal Treatment Improve Metabolic Disease

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This article has been selected by the Editorial Board of the Hong Kong Medical Diary for participants in the CME programme of the Medical Council of Hong Kong (MCHK) to complete the following self-assessment questions in order to be awarded 1 CME credit under the programme upon returning the completed answer sheet to the Federation Secretariat on or before 30 June 2023.

INTRODUCTION

With an ageing population, non-communicable diseases (NCDs) are rising in prevalence, accounting for 71% of all deaths globally. Periodontitis is one of them. Overall prevalence is high (45% - 50%), with the most severe form affecting 11% of the population: it's the 6th most common human disease. There is now a significant body of evidence to support independent associations between severe periodontitis and several NCDs, including diabetes, cardiovascular disease (CVD), chronic obstructive pulmonary disease (COPD) and chronic kidney disease (CKD)^{1,2,3,4}. Interventional studies have shown the beneficial effects of periodontal treatment on systemic diseases.

WHAT IS PERIODONTAL DISEASE (PD)? IT'S MORE THAN POOR ORAL HYGIENE

It is a chronic inflammatory disease triggered by oral microbiota that causes destruction and loss of tooth-supporting structures, e.g., gum and alveolar bone. It increases systemic inflammatory load and leads to other health problems. In early stages, it involves more superficial supporting structures such as our gum, known as gingivitis. It can present as reddened or swollen gum and bleeding when brushing or chewing. Without many signs and symptoms, PD can usually spread deeper unnoticeably. When it advances deeper, the inflammatory load for the body surges, and more tooth supporting tissues, such as the periodontal ligament and alveolar bone, are destroyed. Teeth then become loosened and can eventually be lost. Periodontitis is the most common cause of tooth loss. Vast inflammatory mediators, bacteria and their pathogenic factors get into the bloodstream affecting general health. The progression is often a gradual process that transpires over many years. However, some of the population have high periodontal susceptibility/risk. These young adults can have a very active form and fast progression of PD. According to the oral health survey 2011, the local prevalence of gingivitis among 35 - 44-year-old adults was 80%.



Fig. 1: 63/M with HT, T2DM, CKD and severe periodontal disease with gingival enlargement influenced by calcium channel blocker (Personal Collection)



Fig. 2: After periodontal treatment, the inflammatory load is significantly reduced (Personal Collection)

REDUCTION OF MEDICAL INSURANCE CLAIMS

An interesting approach to exploring the relationship between periodontal treatment and systemic diseases was to analyse insurance claims data. Claim data of 338,891 individuals were studied. Results showed lower medical costs and hospitalisations for some systemic conditions, for individuals who were treated for PD. Outcomes of total annual medical costs and the annual number of hospitalisations were measured. There was a cost reduction of 40.2%, 40.9%, 10.7% and 72.7%, respectively, for T2DM, cerebrovascular disease, coronary artery disease and pregnancy⁵. Periodontal



treatment, through its benefits on general health, can significantly bring down medical costs.

THE LINK BETWEEN PERIODONTAL DISEASE AND SYSTEMIC CONDITIONS

The systemic manifestation of PD is mediated through two major pathways, infectious and inflammatory. Most of the time, these two pathways occur simultaneously and therefore are not independent of each other. The first pathway, infectious, refers to the oral cavity / periodontal pockets as a reservoir of microorganisms. These oral bacteria and their antigens and endotoxins can enter the bloodstream or respiratory tract resulting in transient bacteremia that can trigger complications. The second pathway, inflammatory, refers to the bacterial and host inflammatory products that upregulate systemic inflammation exacerbating inflammatory associated systemic conditions in susceptible patients.

INFLUENCE OF PERIODONTAL TREATMENT ON CARDIOVASCULAR DISEASES AND DIABETES MELLITUS

In 1989, a strong association between poor oral health and acute myocardial infarction independent of classical CVD risk factors was reported⁶. Ever since then, there have been hundreds of publications investigating possible associations between periodontal disease and systemic diseases. The 2012 Statement by the American Heart Association considers that there is a sufficient level of evidence to support an association between atherosclerotic vascular disease and PD that cannot, however, be classified as causal. Studies have reported the detection of typical periodontal pathogen *Porphyromonas Gingivalis* (PG) DNA and cells in atheromatous plaque. The reported risk ratio of cardiovascular events in periodontal patients is 1.19 to 1.34. PD triggers a systemic inflammatory response which leads to high levels of various cytokines associated with atherosclerotic vascular disease, which can contribute to atherogenic processes and endothelial dysfunction. Moreover, oral microbiota can gain access to the circulatory system resulting in a state of transient bacteremia, from common daily actions such as chewing, toothbrushing or clinical dental procedures⁷. The resulting bacteremia can influence CVD mediators such as hypercoagulability and contribute to atherosclerotic processes. It is shown that in subjects with severe PD without any other systemic disease or recent history of acute or chronic infection, periodontal treatment was able to improve endothelial function, coagulation and inflammatory biomarkers⁸. Several meta-analyses reported significant reductions for the systemic inflammation biomarkers C-reactive protein (CRP), interleukin-6 (IL-6), tumour necrosis factor alpha (TNF- α) and fibrinogen. Overall, the current data suggest that periodontal treatment is beneficial in reducing CVD risk, which is achieved by the control of inflammatory and thrombotic markers, adhesion molecules and vascular function associated with CVD events¹⁰. The interdisciplinary team approach

of managing severe PD and CVD through screening and control of risk factors, as well as pre-surgical and pharmacological changes planning can effectively lower bleeding risk and the chance of bacterial endocarditis.

PD and diabetes mellitus (DM) present a bidirectional relationship. It has been extensively studied over decades. DM is a risk factor for periodontal disease; that periodontal disease is more prevalent and severe in diabetic patients, but also that the inflammatory mechanisms of PD adversely affect the metabolic control of diabetes, playing a role in its pathogenesis and its complications¹¹. With regard to the effects of periodontal treatment in T2DM patients, systematic reviews showed a modest reduction of 0.36% glycated haemoglobin (HbA1C) after 3-4 months follow up in T2DM patients who underwent periodontal treatment¹². Some studies have shown no significant reduction of HbA1C after periodontal treatment, but we have to be cautious in assessing the quality of periodontal treatment performed as some of the subjects still had unsatisfactory resolution of PD at the end of the studies¹³. Periodontal treatment is also beneficial for the control of T2DM. I would suggest high periodontal risk young adults to have their blood glucose level screened, and all T2DM patients should have thorough periodontal examination and treatment.

INFLUENCE OF PERIODONTAL TREATMENT ON PREGNANCY OUTCOMES AND RESPIRATORY DISEASES

PD is a significant risk factor for adverse pregnancy outcomes defined by preterm birth (< 37 weeks) and low birth weight (< 2,500g)¹⁴. An increase in systemic inflammatory load plays a central role in this association. Other pathways consider direct infection by oral bacteria in the foetal placental unit¹⁵. Conflicting data shows that periodontal treatment was only statistically beneficial for reducing the risk of preterm birth in high-risk groups, while others concluded no beneficial effects¹⁶. No compelling evidence indicates periodontal treatment can improve pregnancy outcomes, but emerging evidence supports the lowering of CRP and inflammatory cytokines in pregnant women by periodontal treatment¹⁷. It is advantageous to have a thorough periodontal check-up and treatment before pregnancy.

Literature indicated PD as a risk factor for chronic obstructive pulmonary disease with an odds ratio of 2.08¹⁸. A strong level of evidence supports a reduction in the occurrence and progression of pneumonia with improved oral health²⁰ and the association of PD and some bacterial pneumonia, e.g., nosocomial pneumonia, nursing home-associated pneumonia and aspiration pneumonia¹⁹.

INFLUENCE OF PERIODONTAL TREATMENT ON CHRONIC KIDNEY DISEASE

In recent years, a large volume of emerging data is now supporting that periodontal treatment can improve the glomerular filtration rate (GFR) of individuals with

CKD. The average improvement of GFR is 7.01 in 3 to 6 months²¹. In line with other studies, periodontal treatment is found to be able to reduce levels of CRP and IL-6 in CKD patients. The incidence of end stage renal disease (ESRD) was shown to be 37% lower in the periodontal treatment group with an adjusted HR of 0.59. Some studies also found that periodontal treatment can significantly lower the risk of acute and subacute infective endocarditis, pneumonia, osteomyelitis and CVD and mortality in ESRD patients²². With the rapid growth of evidence in recent years, new consensus and clinical guidelines shall appear in the foreseeable future.

PERIODONTITIS AND OTHER SYSTEMIC CONDITIONS

PD is also associated with other systemic conditions such as Alzheimer's disease, psoriasis and rheumatoid arthritis. NHANES database in the US was analysed, and it showed that periodontal status was associated with cognitive impairment²³. Multiple studies have shown that PD is associated with increased peripheral levels of amyloid A β , IL-6 and CRP²⁴. The presence of PD was modestly associated with an increased incidence of mild cognitive decline and a 6-fold increase in the rate of cognitive decline²⁵. It is worth exploring periodontal treatment as one of the ways to Alzheimer's disease prevention.

PD is also shown to be associated with an increased incidence of psoriasis. They also share common risk factors such as smoking, alcohol consumption, stress and immune depression. Overall findings support the existence of an association between rheumatoid arthritis and PD, albeit not causal, and give strength to the proposed role of periodontal pathogens and inflammatory mediators in autoimmunity. Nevertheless, new research also suggests PD plays a role in metabolic syndrome, obesity, osteoporosis, depression and non-alcoholic fatty liver diseases.

CONCLUSION

Periodontal disease can significantly increase the systemic inflammatory load. Having a strong connection with systemic conditions, it certainly deserves much more attention. It is common across the globe, and yet largely preventable. If treated at early stages, periodontal treatments are non-invasive and relatively non-complex. Periodontal treatment can benefit general health. More collaboration and interdisciplinary teamwork among the medical and dental professionals are needed for the screening of high risk groups and better management of common risk factors. The synergistic effect can benefit patients, as well as ease the pressure of our overburdened healthcare system.

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MCHK CME Programme Self-assessment Questions

Please read the article entitled "How Can Periodontal Treatment Improve Metabolic Disease" by Dr Anita MH CHAN and complete the following self-assessment questions. Participants in the MCHK CME Programme will be awarded CME credit under the Programme for returning completed answer sheets via fax (2865 0345) or by mail to the Federation Secretariat on or before 30 June 2023. Answers to questions will be provided in the next issue of The Hong Kong Medical Diary. (Address: Duke of Windsor Social Service Bldg., 4/F1, 15 Hennessy Rd., Wan Chai. Enquiry: 2527 8898)

Questions 1-10: Please answer T (true) or F (false)

1. Periodontal disease means poor oral hygiene, and it can be treated by more frequent scaling and improving patients' oral hygiene.
2. The systemic inflammatory load can be significantly increased by severe periodontal disease.
3. Periodontal disease is a non-communicable disease (NCD) that only affects the older population.
4. Different people have different periodontal risks/susceptibilities. Some young adults can have active and fast progressing forms of periodontal disease. About 11% of the population has severe periodontal disease.
5. Periodontal treatment is shown to be able to improve endothelial function.
6. Serum levels of C-reactive protein and IL-6 cannot be lowered by periodontal treatment in periodontal patients.
7. Diabetes Mellitus shares a bidirectional relationship with periodontal disease. Periodontal treatment may lower HbA1C by an average of 0.36%.
8. Periodontal disease is associated with a number of systemic conditions, mainly through the increase in systemic inflammatory load and transient bacteremia.
9. Periodontal disease is a risk factor for adverse pregnancy outcomes defined by preterm birth (< 37 weeks) and low birth weight (< 2,500 g).
10. A decrease incidence and rate of cognitive decline is observed in older population with periodontal disease.

ANSWER SHEET FOR JUNE 2023

Please return the completed answer sheet to the Federation Secretariat on or before 30 June 2023 for documentation. 1 CME point will be awarded for answering the MCHK CME programme (for non-specialists) self-assessment questions.

How Can Periodontal Treatment Improve Metabolic Disease

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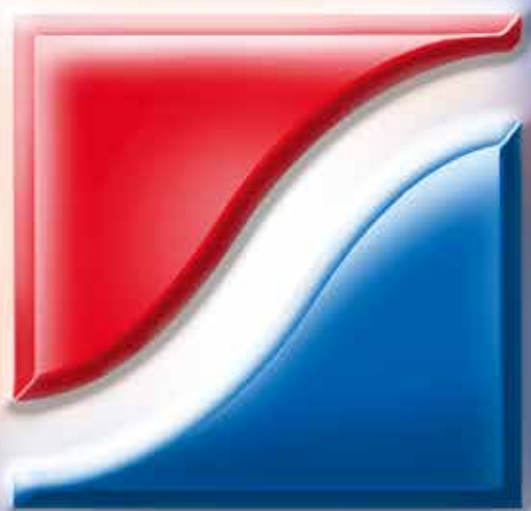
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Answers to May 2023 Issue

The Emerging Role of Robotics in Colorectal Surgery: From Endoluminal, Single Port, to Exenterative Surgery

1. F 2. F 3. T 4. F 5. T 6. T 7. F 8. F 9. T 10. T

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Oral Diseases and Dementia - Cause or Effects?

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INTRODUCTION

Oral diseases are highly prevalent in the older population, especially in people with dementia. They increase risks of infection, nutrition status and affect the quality of life. From the perspective of dementia management, increasing evidence recognised that oral health might modulate the development of dementia through the pathological oral microbiome, inflammatory response and neuromuscular mechanisms. Early detection and management of oral diseases should be recognised as an integral part of dementia management.

DEMENTIA AND MEDICAL COMORBIDITY

Dementia, also referred to as Major Neurocognitive Disorder, is represented by progressive global cognitive decline leading to eventual loss of independent function. From the Diagnostic and Statistical Manual for Mental Disorder - 5th edition, neurocognitive disorders are represented by a progressive decline in one or more of the major cognitive functions (learning and memory, complex attention, language, executive function, perceptual motor skills, social cognition). Mild neurocognitive disorder refers to modest cognitive decline and relatively preserved daily function. Major neurocognitive disorder refers to significant cognitive decline with impairment in activities of daily living (ADL), corresponding to the impairments found in clinical dementia.¹ Pathological mechanisms are different in different dementia subtypes. Alzheimer's disease (AD) is associated with abnormal deposition of amyloid and tau proteins, Lewy body disease is associated with deposition of Alpha-synuclein, whereas tau and TDP-43 protein depositions are found in frontotemporal lobar degeneration. Inflammatory and immune reactions, identified in the brain of different dementia, were considered to be related to neuronal death and disease progression.

Dementia is a syndrome mostly reflecting chronic degeneration in the brain. Aetiological factors are multifactorial. Genetic predispositions contribute significantly to the development of dementia. Vascular risk factors (high blood pressure, hyperlipidemia, obesity, diabetes, strokes) and lifestyles are major risk factors for Alzheimer's and vascular dementia.² These comorbid medical conditions may affect the onset and progression of dementia. With compromised motility and self-care, other systemic medical conditions such as infection and frailty are also common in advanced dementia.³

ORAL DISEASES AS RISK FACTOR FOR DEMENTIA

Periodontal disease is an extremely common condition, and its prevalence increases with age.⁴ While oral diseases are possible consequences of impaired basic ADL in dementia, it is also recognised that oral health conditions play an important role in maintaining brain function and modulating cognitive decline in older adults.

Pathological mechanisms of dementia are complex; neuroinflammation is a core player in progressive cell death. A recently published review discussed the association between periodontal disease (PD) and AD. Porphyromonas gingivalis, along with other pathogenic bacteria, have been hypothesised to cause disturbed homeostasis and dysbiosis in PD. Inflammatory reactions to the dysbiosis are hypothesised to augment cognitive decline.⁵ Pre-clinical animal studies reported the presence of common PD bacteria in the brain was associated with AD pathology.⁶⁻⁸ PD is associated with increased serum level of proinflammatory cytokines and C-reactive proteins. Higher level of antibodies against PD bacteria were found to be associated with poorer cognitive function in older adults without a diagnosis of dementia.⁹⁻¹⁰

Direct bacteremia from PD, or secondary inflammatory responses to the virulent bacteria, may contribute to neuroinflammation in AD and other dementia. The associations between dysbiosis, inflammatory response and AD pathogenesis are complex. It remains inconclusive as to whether PD affects the development AD through influencing Tau and Amyloid protein pathogenesis, inflammatory reactions accelerate cognitive decline in dementia, or both PD and dementia represent clinical conditions with high prevalence in old age.

MASTICATORY FUNCTION AND COGNITION

Masticatory ability is important for food intake and nutrition. Studies reported positive associations between masticatory ability and cognitive function. Chewing comprises highly complex neurological pathways from sensory stimulation, motor coordination to preparation of the digestive process. Masticatory muscles like the masseter and tongue muscle mass have been associated with cognitive function.¹¹ Chewing activities correlate with the activation in different regions in the cerebellum, subcortical, cingulate and



frontal cortices. It is of interest to note that many of these regions are implicated in the degeneration processes of dementia. Daily chewing during meals provides regular inputs to stimulate the brain, thus possibly supporting coordinated cerebral circuitries, which are prone to degenerate in people with dementia.

To maintain good masticatory function, the integrity of functional teeth is fundamental. Epidemiological studies identified that fewer number of teeth, total number of functional tooth units and loss of posterior occlusion were found in people with dementia.¹²⁻¹³ One major limitation in interpretation has been the difficulty in differentiating cause-and-effect between the observed associations. People with cognitive impairment are more likely to exhibit reduced ability for oral care with subsequent plaque and caries formation, causing loss of teeth. This could only be partially addressed through long term prospective studies on the incidence of dementia. In a study from Japan, 13,594 participants (55.8% women) without subjective cognitive complaints (SCC) were followed up for six years. At follow up, the probability of developing SCC was higher when participants acquired swallowing difficulty, decline in masticatory function, dry mouth and tooth loss.¹⁴

In vitro experiments with mice tissues offered some insights into the possible neuroprotective effects of mastication. In a study with euthanised mice, masseter muscle derived neprilysin was found to be transferred to the hippocampus via the trigeminal nerve and possibly associated intracerebral axonal connection. As neprilysin is an enzyme that involves in the degradation of Amyloid protein, mastication may exert protective effects in AD through retrograde axonal transport.¹⁵ A study evaluated the effects of masticatory exercise using an exerciser device on cognitive function in community dwelling healthy older adults (12 intervention and 13 control) living in the community. After six weeks, the intervention group showed improvements in test performance on executive function and attention.¹⁶

POOR ORAL HEALTH IS ASSOCIATED WITH SECONDARY COMPLICATIONS OF DEMENTIA

Dementia is a chronic process which spans over decades of life. With the increasing severity of dementia, the ability to maintain good oral health is affected by global cognitive and functional impairment. Sensory motor functions of mastication and swallowing are also disturbed in a more advanced stage of dementia. A systematic review of the relationship between oral health factors and frailty identified that fewer remaining teeth, reduced masticatory function, and chewing, swallowing and saliva disorder, were associated with frailty among older adults aged 60 or over.¹⁷ Frailty is a systemic condition and is known to be associated with faster cognitive decline. Adequate food intake with a low risk of aspiration is core to the care of people with advanced dementia; however, the role of optimal management of oral diseases is frequently ignored.

As oral health is a potentially remediable factor, improvement in service delivery is likely to exert a long-term impact on cognitive health in the older

community. From a primary care perspective, public education on the maintenance of good oral hygiene with regular dental check-ups should be targeted at middle age and older adults. Reduction of the pathogenic oral microbiome and inflammation should be considered from the perspective of early intervention before dementia symptoms become evident. From a practical perspective, older adults with dementia are less likely to seek dental consultation. They also have limited abilities to comply with dental interventions and aftercare. An accessible help seeking pathway should be considered to improve public recognition and reception of the use of dental services in older adults. Early treatment of suboptimal oral conditions reduces pain, chronic infection and impairments in feeding function, with further potential benefits on brain health.

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TCS includes low- to medium-potency topical corticosteroids and other medicated topicals.
TCS, topical corticosteroids

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PP-CIB-HKG-0023 MAR 2023

For Healthcare Professionals Only



ATTR-CM, a life-threatening and progressive disease that is widely and frequently underdiagnosed^{1,2}

25% of adults aged 80 years or older were found to have significant myocardial TTR amyloid deposition at autopsy²

What is ATTR-CM?²

- A type of cardiac amyloidosis
- Can occur as either wild type or hereditary type
- Progressive and life-threatening
- When the protein transthyretin misfolds, fibril deposits build up in the heart causing ATTR-CM

Please click the link below or scan the QR code to learn more about ATTR-CM and how you can save the lives of potential ATTR-CM patients
www.vyndamax.com.hk



The following warrant your immediate attention²⁻⁴:

Red Flags

Cardiac:



HFpEF²



HF therapy intolerance³

The standard therapies for HF, including ACEI, ARB, and BB³



LVH on Echo²



Imaging and ECG discrepancy²

Imaging finding of LVH and normal/low QRS voltage on ECG²

Non-cardiac:



Orthopaedic syndromes

(e.g. carpal tunnel syndrome, lumbar spinal stenosis and bicep tendon rupture)²



Polyneuropathy²



Family history of TTR amyloidosis⁴

Abbreviations: ACEI: Angiotensin-converting enzyme inhibitors; ARB: Angiotensin-receptor blockers; ATTR-CM: Transthyretin amyloid cardiomyopathy; BB: Beta blockers; ECG: Electrocardiogram; Echo: Echocardiography; HF: Heart failure; HFpEF: Heart failure with preserved ejection fraction; LVH: Left ventricular hypertrophy; TTR: Transthyretin
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VYNDAMAX ABBREVIATED PRESCRIBING INFORMATION

1. TRADE NAME: Vyndamax™ capsules (Tafamidis 61 mg) **2. PRESENTATION:** 61mg soft capsules **3. INDICATIONS:** Vyndamax is indicated for the treatment of wild-type or hereditary transthyretin amyloidosis in adult patients with cardiomyopathy (ATTR-CM). **4. DOSAGE:** The recommended dose is one capsule of Vyndamax 61 mg (tafamidis) orally once daily. **5. CONTRAINDICATIONS:** Hypersensitivity to the active substances or to any of the excipients of the drug (Please refer to the full prescribing information for details). **6. WARNINGS & PRECAUTIONS:** Women of childbearing potential should use appropriate contraception when taking tafamidis and continue to use appropriate contraception for 1-month after stopping treatment with tafamidis. Tafamidis should be added to the standard of care for the treatment of patients with transthyretin amyloidosis. Physicians should monitor patients and continue to assess the need for other therapy, including the need for organ transplantation, as part of this standard of care. Tafamidis should be discontinued in patients who undergo organ transplantation. **7. INTERACTIONS:** Substrates of efflux transporter BCRP (breast cancer resistant protein; e.g., methotrexate, rosuvastatin, imatinib); substrates of uptake transporters OAT1 and OAT3 (organic anion transporters; e.g., non-steroidal anti-inflammatory drugs, bumetanide, furosemide, lamivudine, methotrexate, oseltamivir, tenofovir, ganciclovir, adefovir, cidofovir, zidovudine, zalcitabine). **8. PREGNANCY AND LACTATION:** Tafamidis is not recommended during pregnancy and in women of childbearing potential not using contraception. Tafamidis should not be used during breast-feeding. **9. SIDE EFFECTS:** Flatulence and liver function test increased. A causal relationship has not been established. Reference: Prescribing Information HK PI (Version Jul 2020) Date of preparation: Nov 2020 Identifier number: VYNX1120 **FULL PRESCRIBING INFORMATION IS AVAILABLE UPON REQUEST.**

Oral Health and the Heart

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Dr Adrian CHEONG

INTRODUCTION

It has long been known that poor oral health is a risk factor for bacterial infective endocarditis, and since 1953, guidelines have been issued by the American Heart Association and American Dental Association for antibiotic prophylaxis in high risk individuals undergoing high risk dental procedures. The close vascular-anatomical proximity of the oropharynx and the heart not only brings bacteremia directly to lodge on damaged surfaces in the heart, but also brings cytokines and activated leukocytes that have emerged as key perpetrators in the pathogenesis of the atherosclerotic cardiovascular disease (ASCVD). The importance of good dental hygiene is an overlooked but key component in the prevention and maintenance of ASCVD.

ATHEROSCLEROSIS

Atherosclerosis is the deposition of cholesterol and inflammatory cells in the intima of arteries. ASCVD affects the cerebrovascular, the coronary and the peripheral arterial beds. The pathophysiology of atherosclerosis is similar throughout the body. The currently accepted "classical" risk factors for ASCVD include hyperlipidemia, hypertension, diabetes, smoking and a family history of premature ASCVD. The consequences of ASCVD can be chronic - progressive obstruction of blood - flow causing impairment of function and various symptoms such as angina, heart failure, dementia, and chronic limb ischemia. There can also be acute complications where there is a sudden rupture of atherosclerotic plaque causing thrombosis of the artery and acute ischemia of the downstream vascular bed. Either way, ASCVD is one of the leading causes of mortality in Hong Kong¹ and imposes a significant burden of chronic morbidity on sufferers.

INFLAMMATION IN THE PATHOGENESIS OF ATHEROSCLEROSIS

Inflammation is the result of leukocyte activation in the face of a foreign body or organism invading the human body. It is a defensive and healing mechanism locally but can cause activation of geographically distant leukocytes via the cytokine signalling system in the circulation; moreover, leukocytes are free to circulate in the bloodstream and lymphatic systems. Pathophysiological studies on atherosclerosis by

Anichov, a Russian lipidologist in the early 20th Century, demonstrated the key component of cholesterol in atherosclerotic lesions in overfed rabbits. It was found that the presence of "cholesterinesterphagozyten" or "cholesterol ether phagocytes" in these lesions, which in modern terminology are "foam cells" - lipid-laden macrophages that embed themselves into the arterial wall and act as a nidus of atheroma formation². Hence the involvement of the immune system in atherogenesis was already known from the very beginnings of modern scientific understanding of atherosclerosis pathophysiology.

The focus of atherosclerosis research had been centred on the "cholesterol hypothesis" for much of the 1980s and 90s primarily due to the availability of the revolutionary HMGCoA reductase inhibitors "statins". However, the concept of inflammatory ASCVD risk re-emerged in the 2000s, culminating in the publication of the ground-breaking JUPITER randomised, controlled clinical trial in 2008³, which attributed the anti-ASCVD effects of statins at least partially to their anti-inflammatory effects, measured by a lowering of high-sensitivity C-reactive protein (hsCRP), independent of their cholesterol-lowering effects.

The decade following JUPITER has seen the identification of other inflammatory ASCVD risk factors: rheumatoid arthritis, ankylosing spondylitis, inflammatory bowel disease and psoriasis amongst others. Further confirmation of the importance of inflammation in ASCVD came in the CANTOS randomised controlled trial⁴, which demonstrated that a monoclonal directed towards interleukin-1B, a pro-inflammatory cytokine in the NF-κB inflammasome pathway, reduced the risk of ASCVD events, without any change in cholesterol levels.

PERIODONTAL DISEASE, INFLAMMATION AND ASCVD

Periodontal disease (PD) is a highly prevalent, chronic inflammatory condition triggered by bacterial infection and the formation of biofilms on teeth, followed by local activation of the immune system and subsequent destruction of the supporting bony and soft tissue structures supporting the teeth. Periodontal disease shares with ASCVD many common risk factors, such as smoking and diabetes; epidemiological studies have demonstrated a strong link between ASCVD and PD⁵.



Several lines of circumstantial and pathophysiological evidence point towards a causal relationship between PD and ASCVD. Typical orodental bacterial DNA and cells have been found in atherosclerotic plaque biopsies⁶. The presence of PD is correlated with higher C-reactive protein (CRP) levels and treatment of PD is associated with a decrease in circulating levels of several inflammatory cytokines such as IL-6⁷. Moreover, the presence of PD is also associated with elevated fibrinogen and platelet activating factor-1, which are pro-thrombotic factors.

The close anatomical proximity of the orodental venous drainage to the heart is postulated to deliver these high concentrations of inflammatory cytokines and hyperactivated leukocytes to the heart and the coronary circulation, leading to accelerated atherosclerosis and acute plaque ruptures.

INTERVENTIONS TO IMPROVE PERIODONTAL-CARDIOVASCULAR HEALTH

Given the common risk factors, treatment at both ends of the axis is likely to have synergistic benefits for both. Starting from simple lifestyle modification, smoking cessation, weight reduction, and diet change are established interventions to improve cardiovascular health. Regular twice daily brushing, and interdental cleaning may help interrupt the formation of bacterial biofilms on the surface of teeth.

At the very least, pharmacological management of ASCVD consists mainly of antiplatelet and cholesterol-lowering therapies. Statins have been known to have pleiotropic effects other than cholesterol-lowering, not least in reducing vascular inflammation and low-level systemic inflammation, as demonstrated in the JUPITER trial. Statin therapy has been associated with reduced PD-related inflammation in a dose-dependent manner^{8,9}. Thus a cornerstone of ASCVD pharmacotherapy might simultaneously improve oral health.

Should surgical intervention be contemplated for severe cases of PD, the risks and benefits should be carefully evaluated by an interdisciplinary team of a cardiologist and a periodontist. Surgery, by its very own nature will cause inflammation and may temporarily raise the risk of perioperative cardiovascular events. There is also the risk of bacterial endocarditis, bleeding, and the risk associated with the interruption of oral anticoagulant or antiplatelet therapies. PD treatment ranges from polishing, resection, extraction, dental implants to more advanced therapies such as gingival grafting and block bone harvesting the therapeutic intervention should be focused and limited as much as possible in anatomical distribution and the number of teeth involved, to minimise perioperative cardiovascular risk.

Recommendations for inter-disciplinary collaboration

1. In identifying patients at risk for ASCVD and PD, Cardiologists and Dentists
 - a. Should be educated on the common risk factors for ASCVD and PD and the potential clinical interaction between the two disease processes
 - b. Should use simple screening tools in each other's clinical practice settings to identify both PD and ASCVD risk factors, such as by simply remembering to ask about PD or ASCVD risk factors in history-taking, an inspection of teeth, blood pressure measurement or finger-prick blood sugar measurement in at-risk patients such as those with established ASCVD or PD
2. In managing patients with established ASCVD and PD, Cardiologists and Dentists
 - a. Should communicate effectively about surgical plans and pharmacological therapeutic changes
 - b. Should discuss the relative risks and benefits of treatments planned for both ASCVD and PD before commencing therapy



Fig. 1: Evidence of periodontal disease in a young patient with severe coronary artery disease and diabetes (Personal Collection)



Fig. 2: Critical coronary artery stenosis in the Left Anterior Descending artery (Personal Collection)

Certificate Course on Mental Health 2023 (Video Lectures)

Jointly organised by



The Federation of Medical
Societies of Hong Kong



The Hong Kong
College of Psychiatrists

Objectives:

This course aims to introduce to the allied health professionals and Registered / Enrolled Nurses (General) on the aetiology, course, and management of common psychiatric disorders in Hong Kong. Each topic will be delivered by a specialist psychiatrist who has extensive clinical expertise and academic knowledge in that particular area. After the course, the participants will have better understanding about the course, nature and current evidence-based treatments of various common psychiatric disorders. The course will be suitable for allied health professionals and Registered / Enrolled Nurses (General) working in mental health fields, general hospital settings, as well as social care settings in the community.

Date	Topics	Speakers
21 June 2023	Anxiety and phobias	Dr John SO Specialist in Psychiatry
28 June 2023	Dementia	Dr Calvin PW CHENG Specialist in Psychiatry
5 July 2023	Insomnia and management of sleep disorders	Dr Chi-lun LAI Specialist in Psychiatry
12 July 2023	Common psychiatric disorders in children and adolescents	Dr Nga-lei HO Specialist in Psychiatry
19 July 2023	Psychosocial approaches in psychiatry	Dr Rommel CH HUNG Specialist in Psychiatry
26 July 2023	Psychosis	Dr Chun LAM Specialist in Psychiatry

Date : 21, 28 June & 5, 12, 19, 26 July 2023 (Wednesday)

Duration of Session : 1.5 hours (6 sessions)

Time : 7:00 pm – 8:30 pm

Course Feature: Video lectures (with Q&A platform for participants to post the questions)

Quiz for doctors: DOCTORS are required to complete a quiz after the completion of each lecture

Language Media : Cantonese (Supplemented with English)

Course Fee : HK\$1,000

Certificate : Awarded to participants with a minimum attendance of 70% (4 out of 6 sessions)

Deadline : 14 June 2023

Enquiry : The Secretariat of The Federation of Medical Societies of Hong Kong

Tel.: 2527 8898 Fax: 2865 0345 Email : vienna.lam@fmshk.org



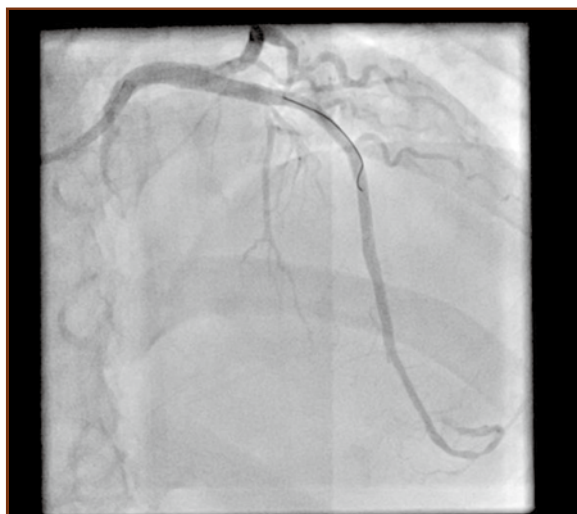


Fig. 3: After treatment with drug-eluting stents (Personal Collection)

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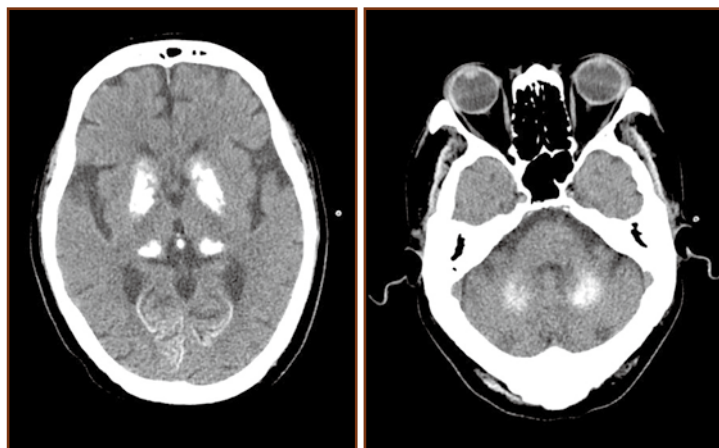
Radiology Quiz



Radiology Quiz

Dr Ivan CHEUNG

MBBS, FRCR



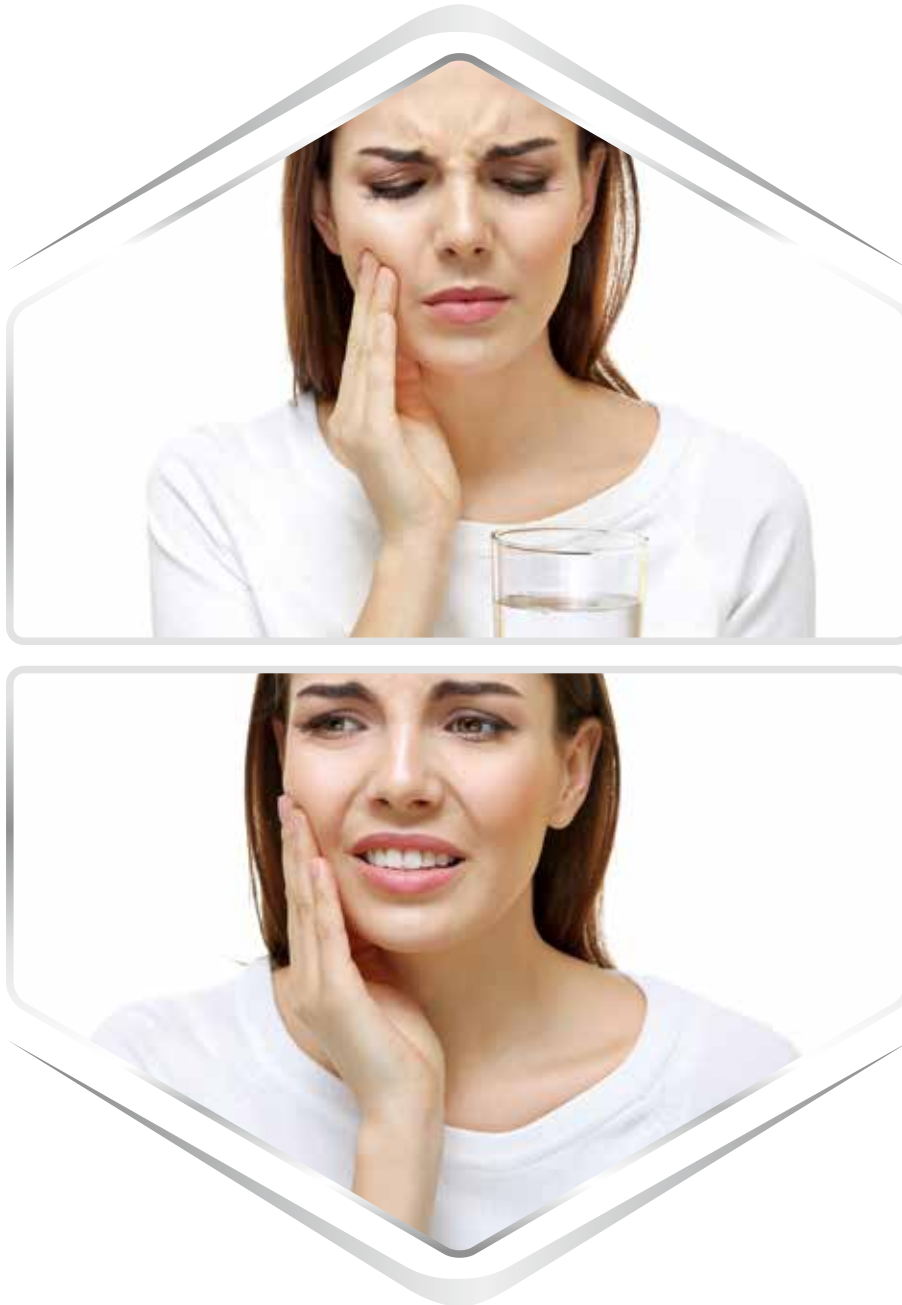
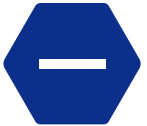
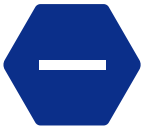
Questions

1. What is the abnormality in the non-contrast CT brain?
2. What are the most likely differential diagnoses?
3. What is the next step of the investigation?

(See P.36 for answers)

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How Implant-Supported Dentures Improve the General Health and Well-beings of Elderlies

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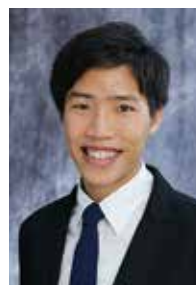
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INTRODUCTION

The ageing population is posing significant challenges to the healthcare system in Hong Kong and other developed societies. According to a recent report from the Census and Statistics Department, the proportion of elderly people aged 65 and over in the population has reached one-fifth and is projected to further increase to about one-third by 2040.¹ Tooth loss, also known as edentulism, is prevalent among elderly people as the cumulative effect of dental diseases and tooth wear. Tooth loss could result in significant masticatory disturbance as well as impaired oral health-related quality of life (OHRQoL). Despite better dental awareness and preventive treatments, most elderly people still have missing teeth to some extent. In Hong Kong, 25% of elderly individuals receiving long-term care services have no natural teeth. It's important to maintain good oral health throughout life and provide appropriate dental care to elderly individuals to improve their quality of life. Education and awareness programs can help prevent tooth loss.

TOOTH REPLACEMENT BY REMOVABLE PROSTHESES

Removable partial and complete dentures are conventionally the options for replacing missing teeth in partial and complete-edentulous patients, respectively. **Retention, support and stability** are the triads of success of removable prostheses. **Retention** refers to the quality of dentures that resists against vertical dislodgement.² It is often provided by denture clasps on abutment teeth in partial dentures or by suctioning effect in complete dentures. **Support** of dentures against movement toward the tissues is achieved by maximising teeth and/or soft tissue coverage with good bony support.³ Optimal stability, i.e. quality of dentures that resists against lateral displacement, can be obtained by placing rigid denture components around abutment teeth for partial dentures. In complete dentures, it is achieved by balancing the muscular forces, from lip/cheek and the tongue, acting on the dentures through the optimal position of denture teeth and contour of the polished (cameo) surface.⁴ Patients with good neuromuscular control better stabilise their dentures during function.



Fig. 1. (ABOVE) A mandibular acrylic removable complete denture (Personal Collection). (BELOW) A maxillary acrylic removable partial denture (Personal Collection).

Tooth-supported overdentures may be considered alternatives when there are several healthy natural teeth. In this treatment regimen, the teeth are endodontically treated, and the clinical crowns are removed, i.e. decoronation. The remaining roots are covered by the dentures. Preservation of the roots provides proprioceptive feedback and helps to retain surrounding alveolar bone,⁵ hence providing better support and stability to the dentures. Retentive attachments such as magnets may be incorporated into the roots to improve the retention of the removable prostheses. However, mechanical complications such as detachment of attachment components and fracture of prostheses may occur; biological complications such as dental caries and periodontal disease of abutment are frequent. Thus, meticulous maintenance of the prostheses and abutment teeth is essential for the long-term success of tooth-supported overdentures.

CHALLENGES FACED WHEN PROVIDING REMOVABLE PROSTHESES TO THE ELDERLY PATIENTS

In elderly patients, tooth loss may be quite significant. Even when teeth are retained, they may be heavily restored and/or have reduced periodontal support. Furthermore, the remaining oral structures, such as the



residual alveolar ridges, might be heavily resorbed, resulting in decreased denture stability. The retention, support and stability of dentures are usually severely compromised. Reduced salivary flow secondary to multiple medication-intakes as well as the reduced neuromuscular control might further contribute to the looseness of dentures.

Mandibular complete dentures are notorious for their looseness, i.e. poor stability and poor chewing efficiency. The supporting area of the mandibular arch is less than the maxillary arch, which includes a large hard palate. The tongue and muscles attached to the floor of the mouth, like the mylohyoid muscle, can cause mandibular dentures (lower dentures) to become unstable while chewing food. The insertion of dental titanium implants has been suggested to improve the performance of mandibular dentures.

IMPLANT-SUPPORTED PROSTHESES

Dental implants are man-made materials that can fuse with the bone in a process called osseointegration, where the bone and implant surface form a direct bond. This allows the implants to provide stability and support for both fixed (shown in Fig. 2) and removable (shown in Fig. 3 and 4) dental prostheses. The discovery of successful osseointegration and fabrication of implants with commercially pure titanium, titanium alloys or zirconia, has brought drastic breakthroughs to successful prosthodontic rehabilitation, improving patients' chewing function, aesthetics as well as oral health-related quality of life.



Fig. 2. (ABOVE) Dental implants inserted in a maxilla with hemi-maxillectomy followed by reconstruction with fibula graft in a patient suffering from squamous cell carcinoma (Personal Collection). (BELOW) Fixed prosthesis in place to improve the function and aesthetics of the patient (Personal Collection).

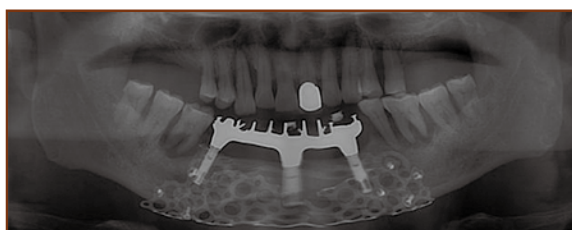


Fig. 3. A radiograph showing an implant-supported fixed partial denture in service for 18 years in the anterior mandible with reconstruction. Peri-implantitis was found for the implant inserted in the symphysis area, and it was deemed unsalvageable (Personal Collection).



Fig. 4. (ABOVE) Conversion to stud-type abutments to retain a mandibular partial overdenture (Personal Collection). (BELOW) Mandibular Cobalt-Chromium removable partial denture incorporated with retention housings and inserts (Personal Collection).

ADVANTAGES OF IMPLANT-SUPPORTED OVERDENTURES (IODs)

Improved Retention, Support and Stability of Prosthesis

The primary function of dental implants is to improve the retention and support of a removable prosthesis with a minimally invasive treatment approach. Numerous studies have shown that IODs have improved retention and support when compared to conventional dentures, and attributed to patient satisfaction.⁶

Bite Force and Masticatory Efficiency

Improvement of average maximum bite forces has been observed after delivery of implant-supported overdentures on edentulous patients, albeit still being significantly lower than that of dentate patients.⁷ The improvement was still seen in these patients at the 10-

year review. A significant improvement in masticatory performance was found for implant overdenture treatment compared to conventional complete denture therapy. The nutritional state of elderly patients, however, may be more determined by dietary habits than masticatory performance.⁸

Preservation of Residual Alveolar Ridge

Studies have shown that dental implants prevent progressive bone loss,⁹ which is dependent on the number of implants utilised.¹⁰ Adequate ridge height enhances denture stability, thereby minimising the risk of ulcerations as well as exposure of the mental nerve underneath the denture.

Oral Health-Related Quality of Life (OHRQoL)

Studies on denture satisfaction and oral health-related quality of life with mandibular implant overdentures have shown promising positive results. Long-term improvement in OHRQoL up to 10 years has been reported.^{7,11}

REMOVABLE PROSTHESES VS FIXED PROSTHESES

Implant prostheses may be categorised as removable or fixed options in which the prosthesis can be removed for cleaning. In general, more implant fixtures and thus higher initial cost, are required for a fixed prosthesis. Younger patients usually request fixed prostheses due to the higher demand for masticatory efficiency and psychosocial reasons. This is particularly true when the edentulous arch is opposed to the natural dentition in which a higher destabilising force to the prostheses is expected by the natural dentition. In the elderly patients, however, removable options may be preferred especially when the opposing arch is also removable prostheses. Moreover, severely resorbed residual alveolar ridge often precludes satisfactory distribution of implant placements from retaining a fixed prosthesis.

Another advantage of removable prostheses is to restore the lip and facial support as well as to overcome severe jaw discrepancies after the loss of teeth and the associated alveolar bone. Severe bone resorption after tooth loss often causes excessive loss of soft tissue support and the anteroposterior discrepancy between the maxillary and mandibular arch. The loss of lip support can be compensated by the buccal flange of removable prostheses. Moreover, the use of removable prostheses allows the setting of teeth distant to the residual ridge to maintain tooth contacts for mastication. Lip support is important to aesthetics as well as phonetics which is easier to be re-established with a removable prosthesis.

In contrast, rehabilitating with a fixed prosthesis in the case of advanced ridge resorption is a challenge, in which complicated surgical procedures may be required to augment the bone so as to insert the implants in favourable positions. These complicated surgeries are often undesirable in elderly patients with complex medical conditions.

Moreover, inadequate oral hygiene of the implant prosthesis may result in plaque accumulation and contribute to inflammation and tissue loss around implants, i.e. peri-implant mucositis and peri-implantitis. Many elderly patients may be unable to perform good oral hygiene for the fixed prostheses due to reduced manual dexterity. In general, the removable prosthesis may be a more favourable option for easier cleaning and maintenance. The choice and design of attachments on implants should also be hygienic to reduce the risk of biological complications.

MANDIBULAR OVERDENTURES

In the mandibular arch, two implants are inserted intra-foraminally, i.e. between mental foramens, and are sufficient to assist the retention and support of the removable prosthesis.(Fig. 5) Maximal mucosa coverage is required to gain support from the remaining residual supporting tissues, and two implants form an imaginary line that the denture may rotate upon. Two consensus published in the 2000s suggested that two implants tissue-supported mandibular complete overdenture as a minimum standard of care for the edentulous mandible.^{12,13} More implants can contribute to better support, but the total number usually would not exceed four due to the anatomic constraints of the intra-alveolar nerve posterior to the mental foramen. On the other hand, single implant insertion at the midline has gradually attracted attention in the research field, and further research is needed to warrant this approach.¹⁴

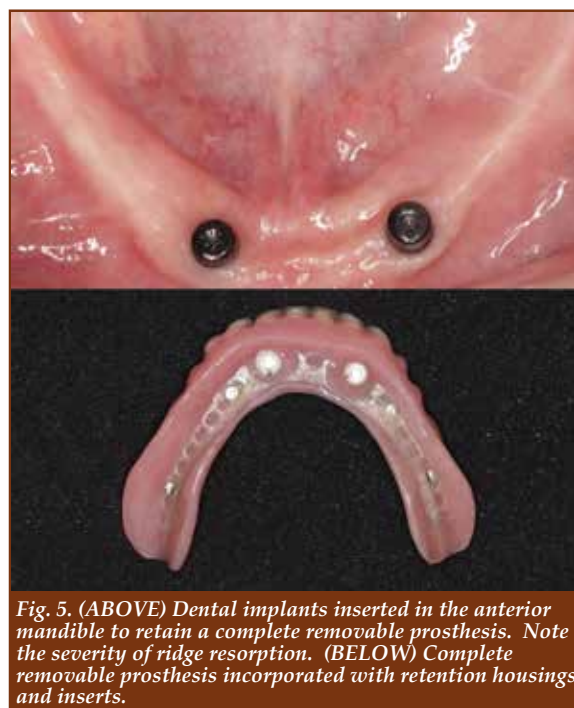


Fig. 5. (ABOVE) Dental implants inserted in the anterior mandible to retain a complete removable prosthesis. Note the severity of ridge resorption. (BELOW) Complete removable prosthesis incorporated with retention housings and inserts.

New Combination Syndrome

"Combination syndrome" was first used to describe the oral changes observed when maxillary complete denture functions against opposing mandibular anterior natural teeth. The most common change is the



replacement of resorbed anterior maxillary alveolar bone with fibrous tissues, forming a "flabby ridge". In recent years, a few reports found that there are similar oral changes when a maxillary complete denture is used opposing to a mandibular implant overdenture.¹⁵ It is suspected that osseointegrated implants may cause excessive loading to the maxillary arch, similar to when there are mandibular anterior natural teeth. Further investigations are needed to confirm this phenomenon.

MAXILLARY OVERDENTURES

In contrast to mandibular dentures, patients do not usually complain of looseness of maxillary complete dentures because there is a wide palatal coverage for support and stability. Moreover, less destabilising anatomical factors are present in the maxilla. For patients who are satisfied with their existing maxillary complete dentures, providing maxillary implant overdentures did not provide any improvement in their satisfaction.¹⁶

Maxillary implant-supported prostheses may be beneficial when the mandibular arch has natural teeth or implant-supported prostheses. Other indications include those who have poor ridge form, strong gag reflex, impaired neuromuscular control, poor adaptation to a conventional complete denture or other dental or maxillofacial defects such as palatal defects.

A maxillary complete denture should be supported by four or more dental implants, ideally evenly distributed in the canine and first molar regions. Evidence found that maxillary overdentures supported by less than four fixtures have significantly higher implant failure rates.¹⁷ It is hypothesised that difference in bone quality, and the complex nature of occlusal forces acting on the dental implants contributes to the increased number of implants required in the maxillary rehabilitation.

ATTACHMENT SYSTEMS OF OVERDENTURES

An overdenture is a type of denture that is supported by both osseointegrated implants and the soft, resilient tissue in the mouth. The implants provide stability and support, while the oral mucosa (the soft tissue lining the mouth) helps to hold the denture in place. Thus, any attachment system used in the implants should allow movement to compensate for the differential support between the two kinds. Otherwise, the immobile implants will receive more loading and be prone to mechanical complications such as wear and fracture.

Attachment systems are used to increase the retention of dentures. Each attachment system consists of 2 parts, the abutment and the housing. Abutments are attached to the implant, whereas the housings are attached to the prosthesis. Two types of attachment systems are available: splinted and solitary (non-splinted). For splinted type, implants are connected by a bar with or without accessory attachments (e.g. magnet). In such a configuration, the force can be distributed across a larger area. However, greater vertical and horizontal prosthetic spaces are required to house the bar system, and there is an increased cost and need for maintenance. Solitary types include studs, ball and sockets, and

magnet attachments. Prefabricated dental implants are less expensive and require less space between teeth for placement. They are easier to clean and maintain hygiene and are less sensitive to the specific techniques used during placement. No significant difference has been found in implant survival between different types of attachments^{16,18,19}; therefore, the choice of attachment was mainly based on the individual's needs and operators' preferences.

TREATMENT PLANNING & EXECUTION

Prosthetically-driven implant placement is crucial for the utilisation of implants to retain a denture. The number and distribution of implant fixtures should be designed based on the final position of the prosthetic teeth. The position of prosthetic teeth may be determined by existing old dentures, or be set on a new denture. The final tooth position would be determined by aesthetics, inter-arch relationship and occlusion. These are then transferred to digital planning, and surgical templates may be fabricated accordingly for accurate execution of the implant plan. (Fig. 6) After the implant fixtures get osseointegrated, a definitive prosthesis can be fabricated after the standard impression/scanning procedure. After the denture is settled on the mucosa, the retentive attachments, such as magnet or clip can be picked up to the prosthesis intraorally using auto-polymerising acrylic resin.

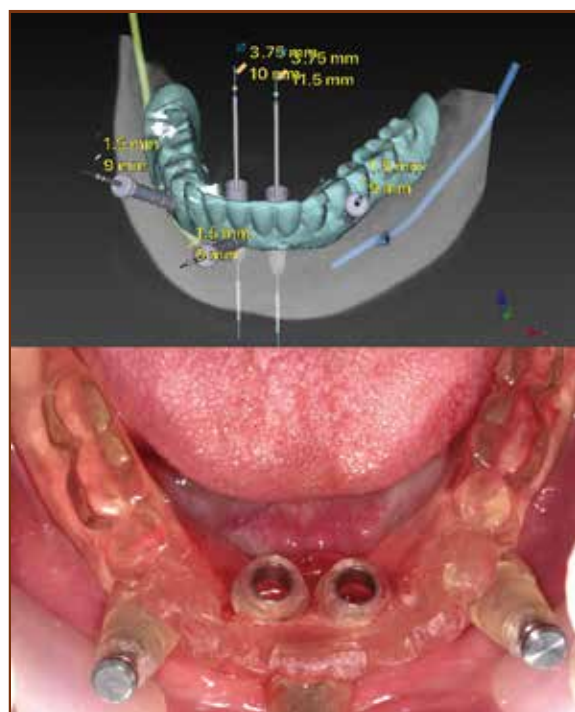


Fig. 6. (ABOVE) Planning of implant position with the use of computer software. Cone-beam computer topography (CBCT) for the dental arches and radiographic stents converted from the existing denture were superimposed to visualise the final prosthesis design. Implant placements were planned, and the surgical stent was constructed accordingly (Personal Collection). **(BELOW)** The surgical stent is in-situ (Personal Collection).

CONCLUSION

There is enormous evidence to support the use of implant supported overdenture in the mandible to improve the function and quality of life of elderly patients. For the maxillary arch, implant-supported dentures offer a potential alternative in complex situations. Like other treatment protocols, thorough treatment planning, appropriate prosthesis design and meticulous long-term maintenance are essential to ensure treatment success.

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Putting the Mouth Back to the Body

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INTRODUCTION

Dentistry and medicine have been separated through education, legislation, service delivery and financing. Oral health care is still sometimes considered discretionary with the misconception that the adverse effects are confined to the mouth only. There is an under-recognition of the importance of oral health for general health. Paradoxically, dentistry and the treatment of teeth were written by the father of modern medicine, Hippocrates and Aristotle. Besides, Pierre Fauchard, commonly credited as the father of modern dentistry, was also a physician¹.

Along with the advancement of research on the dental-medical interrelationship, the importance of dental health and general health has been revealed and proved. It opens a new window for dental input in the overall medical management of many diseases. Moreover, the ageing population of the globe leads to the increase of people living with chronic diseases; many of them require continuous dental service to maintain their quality of life. It goes without saying that the collaboration between dentists and physicians/surgeons will become unprecedentedly frequent.

Dental caries and periodontal disease are prevalent yet preventable. These can largely be controlled by appropriate dental plaque control habits, dietary habits and visiting a dentist for check-ups on a regular basis. However, these seemingly easy actions may become very difficult when someone is physically or cognitively disabled as a result of certain medical conditions. Besides, some medical treatments can cause adverse effects on the oral cavity or increase the risk of developing dental diseases.

The objective of this article is threefold, (i) to illustrate with examples the effects of medical/surgical treatments on the oral health status, (ii) to reinforce that oral care should be incorporated as part of the medical care for certain diseases, and finally (iii) to briefly introduce the significance of modification of dental management of patients with special health needs.

By taking reference from the leading cause of death in Hong Kong² and the epidemiology of common diseases of other countries, the following ailments will be discussed, namely malignant neoplasm, stroke, diabetes mellitus, and severe mental illnesses, including dementia. Some diseases which also warrant mentioning include organ transplants, osteoporosis and infective endocarditis.

CANCER THERAPY

Apart from surgical treatment, chemotherapy and radiotherapy are the mainstay of cancer therapies. Patients who have undergone chemotherapy would face multiple acute and chronic complications related to their oral cavities, such as blood change, mucositis, xerostomia and trismus. The later oral changes would also lead to dysphagia, dysphasia, and dysgeusia. It is therefore recommended that medical colleagues should refer their patients for dental assessment and optimisation of oral diseases before commencing cancer treatment to prevent possible complications or infection during their Nadir stage³.

After radiotherapy (RT) in the head and neck region, patients should receive regular dental follow up. A recently published systematic review showed that an overall osteoradionecrosis (ORN) incidence was 5.8% in patients who underwent tooth extraction after radiotherapy⁴. ORN is considered the most severe complication due to progressive endarteritis in irradiated bone⁵. Radiotherapy also increases the risk of dental caries and other oral-related complications due to xerostomia following the damage of salivary glands. Thus, oral health should be maintained before, during and after cancer therapy to prevent both ORN and dental diseases.

STROKE

Other than the impact on daily activities, stroke can also cause profound disturbances to the oral and facial tissues. Both facial palsy and dysphagia cause food stagnation in the mouth and difficulty in swallowing. Dysphagia may lead to aspiration pneumonia, and poor oral clearance may increase caries risk⁶. Therefore, assistance and/or education to maintain good oral and dental (including dentures) hygiene are imperative for those with swallowing difficulties or who are tube-fed⁷. They should have mouth care at least three times a day, and dentures should be checked and cleaned regularly⁸.

The long-term use of anticoagulant is common in stroke survivors, for instance Warfarin or Direct Oral Anticoagulants (DOAC). Patients should be well informed of their bleeding risk by their doctors or pharmacists, and dentists, on the other hand, should maintain close communication with their medical counterparts, and keep abreast of up-to-date international guidelines on the management of patients taking anticoagulants⁹.

DIABETES MELLITUS

Numerous studies have established the bi-directional relationship between type-2 diabetes mellitus (DM) and periodontal disease^{10,11}. DM can promote the progression of periodontitis; conversely, periodontitis can worsen glycaemic control and may increase the risk for diabetic complications¹².

Managing periodontal condition in DM patients can improve their blood glucose control and reduce their risk of complications. The Hong Kong Reference Framework for Diabetic Care for Adults in Primary Care Settings has included a note on the importance of oral hygiene and a recommendation on annual oral check-up¹³. Medical colleagues could refer their DM patients for dental and periodontal assessment, oral hygiene instruction and management of the periodontal disease.

ORGAN TRANSPLANT

Immunosuppression is the major concern for transplant recipients. Uncontrolled odontogenic or oral infections such as stomatitis, gingival bleeding, ulceration and opportunistic infection may cause life-threatening abscesses and sepsis. Patients scheduled to receive an organ transplant should be referred for a comprehensive oral assessment as soon as possible¹⁴. Ideally, all active dental diseases should be aggressively treated before transplantation. Patients should avoid dental treatment for at least 3 months following organ transplantation except for emergency dental care. It is because the dosage of immunosuppressive medications is highest in the early post-transplant period, and patients are at greatest risk for rejection of the transplanted organ and other serious complications during that period of time. Once the graft has stabilised (typically 3 to 6-month time post-surgery)¹⁵, patients can be treated in the dental office. However, management modifications, including consultation with the patient's physician, as well as being cautious with blood changes such as thrombocytopenia and neutropenia, risk of infection and adrenal insufficiency due to long term use of immunosuppressive agents and steroids, must be considered.

INFECTIVE ENDOCARDITIS

Infective endocarditis (IE) is a life-threatening infection of the endocardium which might be brought by transient bacteraemia¹⁶. Guidelines for antibiotic prophylaxis prior to dental procedures have been updated several times throughout the years. The America Heart Association's 2021 scientific update reinforced the guideline published in 2007¹⁷, that only patients with the highest risk of IE are indicated for antibiotics prophylaxis. They include patients with (i) unrepaired cyanotic congenital heart defects and any repaired congenital heart defect with residual shunts or valvular regurgitation at the site of, or adjacent to the site of a prosthetic patch or a prosthetic device; (ii) prosthetic valves, including transcatheter-implanted prostheses and homografts; (iii) a history of infective endocarditis and (iv) a cardiac transplant with valvular regurgitation due to a structurally abnormal valve.

Particular attention to dental and cutaneous hygiene and strict aseptic measures during any invasive procedure are advised in this population. Antibiotic prophylaxis should be considered in invasive dental procedures involving manipulation of the gingival or periapical region of the teeth or manipulation of the oral mucosa¹⁸.

A dental examination should be performed before heart valve intervention to rule out potential infection sources. Persons at risk of IE can reduce potential sources of bacterial seeding by maintaining optimal oral health through regular professional dental care and the use of appropriate dental products, such as manual, powered, and ultrasonic toothbrushes; dental floss; and other plaque-removal devices¹⁹.

SEVERE MENTAL ILLNESS AND DEMENTIA

Patients living with severe mental illness can have a higher risk of developing dental diseases. It can be due to but not limited to self-neglect, xerostomia caused by illicit drug use, avoiding dental appointments due to anxiety or dentists being unable to provide services to them. Besides, most psychiatric drugs cause dry mouth which is associated with an increased risk for multiple dental complications such as dental decay and opportunistic infection²⁰.

With the increase in ageing populations, dementia is on the rise globally. Dental and oral health personnel are an integral part of the healthcare team for people with dementia. There are several factors which may lead to poorer oral health in people with dementia, including cognitive impairment, dietary change, reduced access to dental care and side effects of polypharmacy, such as reduced saliva. The medical practitioner should emphasise the importance of maintaining good oral health to their patients upon diagnosis of dementia, and encourage them (and their family and caretaker to bring them) to have a dental assessment at the early stage of dementia. Due to the irreversible and degenerative nature of dementia, dentists should be involved to conduct a thorough assessment and formulate a long-term management plan with a view to preventing dental diseases proactively at the early stage of dementia²¹.

OTHER MEDICAL CONDITIONS

According to the health statistics in Hong Kong in 2021, nephritis, nephrotic syndrome and nephrosis were the 7th leading cause of death in Hong Kong, while diabetes mellitus took the 10th place. These diseases are also the leading cause of chronic renal disease. In a prospective multinational cohort study involving 4,205 adults with end-stage renal diseases and receiving long-term dialysis, it was found that poorer dental health was associated with early death and preventive dental health practices were associated with longer survival²².

Anti-resorption, anti-angiogenic or RANKL inhibitor (Denosumab) therapy is common in the management of osteoporosis²³ and some forms of cancer metastasis such as breast and prostate cancer. The therapy carries a small risk of medication-related osteonecrosis of the jaw (MRONJ), which might be untreatable. It is,



therefore, preferable for patients to undergo a thorough dental assessment and render them dentally fit prior to the commencement of the therapy²⁴. It is strongly recommended by the National Osteoporosis Guideline Group - UK that during bisphosphonate or Denosumab therapy, all patients should be encouraged to maintain good oral hygiene and to receive routine dental check-ups. They should report any oral symptoms such as dental mobility, pain, or swelling to their dentists²⁵.

Oral health and oral care can be severely compromised by frailty in people who cannot attend to personal hygiene or are receiving help from caregivers. Frailty also influences the pathogenesis of oral diseases and is, in return, influenced by oral disorders, probably through biological and environmental pathways that are linked to the common burden of inflammation²⁶. Some systematic reviews also identified significant longitudinal associations between oral health indicators and frailty that highlight the importance of oral health as a predictor of frailty^{27,28}.

CONCLUSION

Without a doubt, oral health and general health are intimately related. Patients with physical and cognitive disabilities may have poor oral hygiene and barriers to accessing dental services. Oral diseases may preclude, delay, and even jeopardise medical treatments, and cause costly medical complications. In a number of medical conditions, dental care should be integrated into the overall management. However, oral care has often been reported by patients as missed care in hospitals in particular²⁹. Moreover, the primary dental care sector has yet to offer its full potential in managing patients with chronic diseases or cancer survivors in the community. As such, closer medical and dental collaboration across different levels of care should be promoted.

Starting from January 2023, the US Centers for Medicare & Medicaid Services will cover dental services that are an integral part of specific treatment of a beneficiary's primary medical condition, such as dental services prior to or contemporaneously with organ transplants, cardiac valve replacements, and valvuloplasty procedures. The coverage will be extended to dental examination and necessary treatments prior to the treatment for head and neck cancers starting in 2024³⁰. While we are witnessing the recognition of dental care in America, we believe that there is still tremendous work to do in Hong Kong. The overarching goals for care in the best interest of patients are (i) to establish care pathways for different diseases, including oral health services like dedicated dental service for patients with severe mental illness; (ii) to revolutionise medical and dental education aiming to integrate rather than fragmentise the body systems and (iii) to improve the health care financing system such as broadening insurance coverage to include dental care.

Acknowledgement

The authors would like to thank Dr. Frankie SO for the guidance and advice given for this article.

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The Ultimate Wind Down in an Open-top McLaren

Dr Spencer CY CHAN

MFDS RCPS (Glasg), DimplantDent RCS Eng, MSc ClinDent (Imp Dent) (Leeds), DMD UE Phil

Dental Surgeon

Vice President of Hong Kong Dental Association



Dr Spencer CY CHAN

INTRODUCTION

It's five past midnight and I'm heading home in my McLaren 600LT Spider after a regular meeting with the Dental Association on top of a long day's work. The car roof is open and my exhausted mind is refreshed by the cool winter breeze. The rhythmic sound of the engine once again calls to my soul: every time I turn the steering wheel, press on the pedal, flick the signal lights, I feel alive - and the car tells me this equally so.



Fig. 1: McLaren 600LT Spider (Personal Collection)

I love driving - the speed, the smell of the petrol - and own a few sports cars. But I think it was the sound that hooked me first. The sound draws you in and makes you want to experience the car's performance.

MY FIRST ENCOUNTER WITH RACING CAR

My love for supercars started in the early 1990s when I got a Carrera 911 4S. I joined the owners' group and embarked on a road trip to China. It was a fun trip, but I found it really hard to catch up with what they called Team A - the really fast drivers. On returning to Hong Kong, I got myself a faster Porsche, and soon started racing on the tracks. Getting my first sports car opened me up to a community of like-minded individuals.

As time went by, I took a "multi-disciplinary" approach to cars, and started to acquire other performance cars such as Ferrari and Lamborghini. And finally the journey took me to McLaren. My first was the 650S, which I took to the track in Sepang and Zhuhai. Then I got the 600LT.



Fig. 2: Racing on track in Sepang and Zhuhai (Personal Collection)

MASTERING RACING CARS WITH THEIR OWN PERSONALITY

To some, "supercar shopping" is a vanity thing. I admit there is a certain see and be seen sentiment to it, but ultimately I enjoy my "conversations" with the cars. Each car, and brand, has its own personality. Some do better at cornering while others are better on the straight. You have to know your car before you can get the best performance out of it, so you need time to practise, learn and master the car.

I would say driving the 600LT well gives me a lot of pride, as it is not the easiest to drive. As a turbocharged 600 horsepower beast, the power comes so quickly that you need to take control. While its unique suspension and aerodynamic technology bring agile manoeuvrability, the sophisticated design details make driving the car so stylish.



Fig. 3: Annual racing cars parade (Personal Collection)



MEETING LIKE-MINDED RACING CAR LOVERS

Since the 1990s, I've joined a few car clubs, and each has its own vibe and its own culture. They organise morning drives from time to time, and this is like a fraternity where car lovers can share their *joie de vivre* about vehicles and life. There's also the amazing annual parade where a huge percentage of owners show up, and you get to see almost all car models, past and present. I would say it is a community of gentlemen who enjoy life, sharing their experiences and knowledge of common interest - cars. We just love driving and love life.

As a dentist, work life is stressful. Driving my car with the roof open, feeling the fresh air and enjoying the drive is part of my stress management. When I drive, I get very focused. It's just me, the machine and mind-blowing "me-time".



Fig. 4: My first McLaren 650S (Personal Collection)



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Although Hong Kong is only a medium-sized city, we have a good tradition and a sound foundation in urological surgical practice. Through physical and online platforms Hong Kong Society of Endourology provides advancement in public health education and professional urological practice. As a member society of the East Asian Society of Endourology (EASE) and a delegate association of the Endourological Society which is an esteemed international association of urologists from different parts of the world, Hong Kong Society of Endourology fosters an important role in the regional and international development of Endourology.



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				1	2	3
	★ Zoom Live Patient Journey and Management from Dysmenorrhea to Endometriosis	★ In-person / Zoom Live HKMA-HKSH CME Programme 2022-2023 Topic: Management of Stomach Cancer ★ Certificate Course on Update on Common Urinary Tract Disorders 2023 (Video Lectures)	★ Zoom Live Common Eye Disorders and Ophthalmic Emergency for Primary Care	★ Zoom Live Best Practice of Lipid Management in all-round way for mixed-dyslipidemia patients, how can we do better?	★ Zoom Live Recent Updates on the Recommendations for Screening of Nasopharyngeal Cancer	★ In-person / Zoom Live Symposium on Diabetes Mellitus & Heart Failure - Topic 1: SGLT2 inhibition: Latest evidence along the cardio-renal-metabolic axis; Topic 2: SGLT2 inhibition across LVEF spectrum: The turning point in HF history
4	5	6	7	8	9	10
		★ Zoom Live Addressing Unmet Medical Needs in Atopic Dermatitis ★ Certificate Course on Update on Common Urinary Tract Disorders 2023 (Video Lectures)	★ The Hong Kong Neurosurgical Society Monthly Academic Meeting – To be confirmed ★ In-person / Zoom Live HKMA-CUHK Medical Centre CME Programme 2023 Common health problems for the elderly - Topic: Combating Heart Failure – common course and management	★ EMSHK Executive Committee Meeting	★ Zoom Live Silent Voices: Understanding vocal cord paralysis	★ In-person Seminar on Mental Health Lecture 1: ADHD: a Lifespan Disorder from Childhood to Adulthood Lecture 2: Mental Health in the Community – Youth and Beyond Lecture 3: Using Deep Learning for Detection of Alzheimer's Disease Based on Retinal Images
11	12	13	14	15	16	17
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	★ Zoom Live Long Term Use of Antiplatelet Drug in Primary Care	★ Zoom Live Treating to higher targets in psoriasis ★ Certificate Course on Update on Common Urinary Tract Disorders 2023 (Video Lectures)	★ Zoom Live SGLT2 inhibitors: Delivering more evidences in cardiorenal protection ★ Certificate Course on Mental Health 2023 (Video Lectures)	★ Zoom Live New Generation Basal Insulin: Importance of Early Insulinization for Glycaemic Control		
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Objectives:

To provide an updated understanding in hot topics of allergy.

Date	Topics	Speakers
29 Jun 2023	Bee Sting Mortality: Can it be Prevented?	Dr Adrian Y. Y. WU Specialist in Allergy & Immunology
6 Jul 2023	Clinical Pearls in Drug Allergy	Dr. Philip H. LI Clinical Assistant Professor Department of Medicine The University of Hong Kong
13 Jul 2023	Practical Update on Food Allergy: Including Food Challenge & Oral Immunotherapy	Ms. June K. C. CHAN Senior Dietitian
20 Jul 2023	Update on Allergy Diagnostics	Dr. Marco H. K. HO Specialist in Paediatric Immunology, Allergy & Infectious Diseases
27 Jul 2023	Primary Prevention of Allergy	Dr. Agnes S. Y. LEUNG Assistant Professor Department of Paediatrics The Chinese University of Hong Kong
3 Aug 2023	The Application of Allergen Immunotherapy	Dr. Alson W. M. CHAN Specialist in Paediatric Immunology, Allergy & Infectious Diseases

Date : 29 June, 6, 13, 20, 27 July & 3 August 2023 (Thursday)

Duration of session: 1.5 hours (6 sessions)

Time : 7:00 pm - 8:30 pm

Course Feature: Video lectures (with Q&A platform for participants to post the questions)

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Language Media : Cantonese (Supplemented with English)

Course Fee : HK\$1,000

Certificate : Awarded to participants with a minimum attendance of 70% (4 out of 6 sessions)

Deadline : 21 June 2023

Enquiry : The Secretariat of The Federation of Medical Societies of Hong Kong

Tel.: 2527 8898 Fax : 2865 0345 Email : vienna.lam@fmskhk.org





Date / Time	Function	Enquiry / Remarks
1 THU 2:00 PM	Zoom Live When 1 + 1 is more than 2: How to Position Combination Therapy in Lipid Management Organiser: The HKMA Network (New Territories West) Speaker: Dr KONG Chu-cheong	Mr Peter HO Tel: 3108 2514 1 CME Point
2 FRI 2:00 PM	Zoom Live Treatment for Insomnia Part I Organiser: The Hong Kong Medical Association Speaker: Dr Ben Kin-leung CHEUNG	HKMA CME Dept. Tel: 3108 2507 1 CME Point
5 MON 2:00 PM	Zoom Live Patient Journey and Management from Dysmenorrhea to Endometriosis Organiser: The Hong Kong Medical Association Speaker: Dr Vicky Yun-ting LEE	HKMA CME Dept Tel: 3108 2507 1 CME Point
6 TUE 1:00 PM	In-person / Zoom Live HKMA-HKSH CME Programme 2022-2023 Topic: Management of Stomach Cancer Organiser: The Hong Kong Medical Association & The Hong Kong Sanatorium and Hospital Speaker: Dr KWONG Wing-hang Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept. Tel: 3108 2507 1 CME Point
7:00 PM	Certificate Course on Update on Common Urinary Tract Disorders 2023 (Video Lectures) Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Samuel YEE	Ms Vienna LAM Tel: 2527 8898
7 WED 2:00 PM	Zoom Live Common Eye Disorders and Ophthalmic Emergency for Primary Care Organiser: The HKMA Network (Central, Western & Southern) Speaker: Dr Madeline Ka-man KWOK	Mr Peter HO Tel: 3108 2514 1 CME Point
8 THU 2:00 PM	Zoom Live Best Practice of Lipid Management in all-round way for mixed-dyslipidemia patients, how can we do better? Organiser: The Hong Kong Medical Association Speaker: Dr Enoch WU	HKMA CME Dept. Tel: 3108 2507 1 CME Point
9 FRI 2:00 PM	Zoom Live Recent Updates on the Recommendations for Screening of Nasopharyngeal Cancer Organiser: The HKMA Network (Kowloon City) Speaker: Dr Jacky Wai-kei LAM	Mr Peter HO Tel: 3108 2514 1 CME Point
10 SAT 1:00 PM	In-person / Zoom Live Symposium on Diabetes Mellitus & Heart Failure - Topic 1: SGLT2 inhibition: Latest evidence along the cardio-renal-metabolic axis; Topic 2: SGLT2 inhibition across LVEF spectrum: The turning point in HF history Organiser: The Hong Kong Medical Association Speaker: Dr CHUNG Chi-tung & Dr LAU Chak-kwan Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept Tel: 3108 2507 2 CME Points
13 TUE 2:00 PM	Zoom Live Addressing Unmet Medical Needs in Atopic Dermatitis Organiser: The Hong Kong Medical Association Speaker: Dr HO King-man	HKMA CME Dept. Tel: 3108 2507 1 CME Point
7:00 PM	Certificate Course on Update on Common Urinary Tract Disorders 2023 (Video Lectures) Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr NGAI Ho-yin	Ms Vienna LAM Tel: 2527 8898
14 WED 7:30 AM	The Hong Kong Neurosurgical Society Monthly Academic Meeting –To be confirmed Organizer: Hong Kong Neurosurgical Society Speaker: Dr HO Cheuk-him Chairman: Dr WONG Sui-to Venue: Conference Room, F2, Department of Neurosurgery, Queen Elizabeth Hospital; or via Zoom meeting	CME Accreditation College: 1.5 points College of Surgeons of Hong Kong Enquiry: Name: Dr Calvin MAK Tel: 2595 6456 Fax. No.: 2965 4061
1:00 PM	In-person / Zoom Live HKMA-CUHK Medical Centre CME Programme 2023 Common health problems for the elderly - Topic: Combating Heart Failure – common course and management Organiser: The Hong Kong Medical Association & The CUHK-Medical Centre Speaker: Dr CHAN Yu-ho Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept. Tel: 3108 2507 1 CME Point
15 THU 8:00 PM	FMSHK Executive Committee Meeting Organiser: The Federation of Medical Societies of Hong Kong; Venue: Council Chamber, 4/F, Duke of Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms Nancy CHAN Tel: 2527 8898
16 FRI 2:00 PM	Zoom Live Silent Voices: Understanding vocal cord paralysis Organiser: The Hong Kong Medical Association Speaker: Dr NG Yiu-wing	HKMA CME Dept. Tel: 3108 2507 1 CME Point



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- **Physical Participation:** 3/F, Sheraton Hong Kong Hotel & Towers, 20 Nathan Road, Tsim Sha Tsui, Kowloon
- **Online Participation:** Zoom Live Webinar

SCIENTIFIC PROGRAMME

0900-0925 Online & Onsite Reception with Exhibition (Foyer)

0925-0928 **Welcome Message**

Dr. Jane Chun-kwong CHAN

President, Hong Kong Chinese Medical Association Ltd.

0930-1000 **Recent Advances in Managing Advanced EGFR-mutated NSCLC**

Dr. James Chung-man HO

Specialist in Respiratory Medicine

1000-1030 **Overview and Update on HER2-targeting Therapy in Cancer Treatment**

Dr. Carol Chi-hei KWOK

Consultant, Department of Oncology, Princess Margaret Hospital

1030-1100 **Updates on Management of HR+/HER2- Breast Cancer**

Dr. Henry Chun-yip WONG

Resident, Department of Oncology, Princess Margaret Hospital

1120-1150 **The Latest COVID-19 Management and Treatment in Hong Kong**

Dr. Ivan Fan-ngai HUNG

Clinical Professor and Chief, Division of Infectious Diseases, Department of Medicine, HKU

1150-1300 **Opening Ceremony**

Keynote Lecture

Prof. GAO Fu 高福院士

Vice President, Chinese Medical Association 中華醫學會副會長

1300-1420 **Luncheon Symposium**

Recent Advances in the Prevention of Pneumococcal Disease

Dr. Christopher Kim-ming HUI

Specialist in Respiratory Medicine

Advances in Migraine Management

Prof. Lawrence Ka-sing WONG

Specialist in Neurology

1420-1450 **What are the Challenges in Managing Insomnia Patients in Primary Care?**

Dr. Daniel Wai-sing CHU

Specialist in Family Medicine

1450-1520 **The Local Burden of Paediatric Invasive Pneumococcal Disease and its Prevention**

Prof. Ellis Kam-lun HON

Consultant in Paediatrics, CUHK Medical Centre

1540-1610 **Anti-inflammatory Reliever in Mild Asthma in Theory and Practice**

Prof. Eric BATEMAN

Emeritus Professor, Division of Pulmonology & Department of Medicine, University of Cape Town, South Africa

1610-1640 **Updates on Herpes Zoster Vaccine**

Dr. Thomas Ho-fai TSANG

Past President, Hong Kong College of Community Medicine

1640-1650 **Closing Remarks**

Dr. Henry Chiu-fat YEUNG

Chairperson, Organizing Committee, ASM 2023, Hong Kong Chinese Medical Association Ltd.

Concurrent Sessions

Obstetrics & Gynecology: A Year in Review

Dr. Charas Yeu-theng ONG

Honorary Clinical Associate Professor, Department of Obstetrics & Gynaecology, HKU

Early Child Development and Effective Interventions

Dr. Patrick Pak-keung IP

Clinical Associate Professor, Department of Paediatrics & Adolescent Medicine, HKU

Adjunctive and Adjuvant Dental Care for Patients with Chronic Medical Problems

Dr. Sai-kwing CHAN

Past President, The College of Dental Surgeons of Hong Kong

Concurrent Sessions

Action to Challenge the Boundaries of Cardio-Renal Disease with SGLT

Dr. Peter LIN

Primary Care Physician, Canadian Heart Research Centre, Toronto, Ontario, Canada

Update in the Management of Salivary Gland Diseases

Dr. Siu-kwan NG

Honorary Clinical Associate Professor, Department of Otorhinolaryngology, Head & Neck Surgery, CUHK

Endoscopic Diagnosis and Treatment of Early Gastric Cancer

Dr. Hon-chi YIP

Clinical Assistant Professor, Division of Upper Gastrointestinal and Metabolic Surgery, Department of Surgery, CUHK

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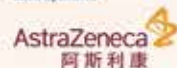
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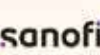
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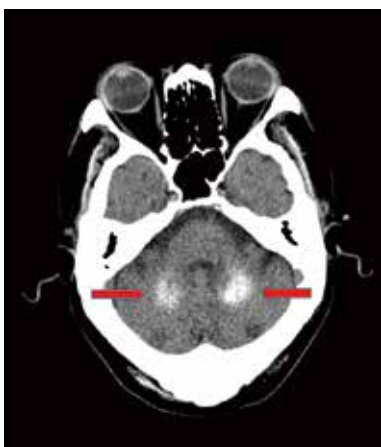
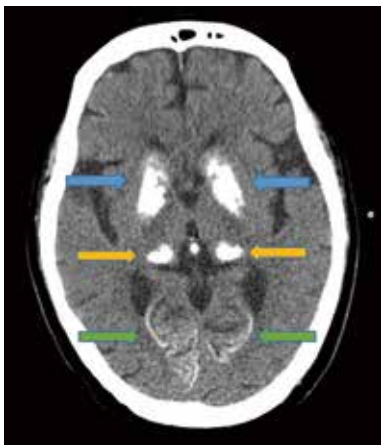
Date / Time	Function	Enquiry / Remarks
17 SAT 1:00 PM	In-person Seminar on Mental Health Lecture 1: ADHD: a Lifespan Disorder from Childhood to Adulthood Lecture 2: Mental Health in the Community – Youth and Beyond Lecture 3: Using Deep Learning for Detection of Alzheimer's Disease Based on Retinal Images Organiser: The HKMA Network (Hong Kong East) Speaker: Dr Phyllis Kwok-ling CHAN & Prof Michael Tak-hing WONG, & Dr Carol CHEUNG Venue: Forum Room 1 Basement 2, Regal Hong Kong Hotel, 88 Yee Wo Street, Causeway Bay, HK	Mr Peter HO Tel: 3108 2514 3 CME Points
20 TUE 2:00 PM	In-person / Zoom Live HKMA-GHK CME Programme 2023 - Practical Aspects Of Common Pituitary Disorders Organiser: The Hong Kong Medical Association & The Gleneagles Hong Kong Hospital Speaker: Dr Joanne King-yun LAM Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept Tel: 3108 2507 1 CME Point
7:00 PM	Certificate Course on Update on Common Urinary Tract Disorders 2023 (Video Lectures) Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Eddie CHAN	Ms Vienna LAM Tel: 2527 8898
21 WED 4:00 PM	Certificate Course on Mental Health 2023 (Video Lectures) Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr John SO	Ms Vienna LAM Tel: 2527 8898
23 FRI 1:00 PM	In-person Differential Clinical Advantages of Antidepressant for Better Management of Depression Organiser: The HKMA Network (Kowloon West) Speaker: Dr Raymond Ka-yau WONG Venue: Rich Garden Restaurant, C2/F, 114 Broadway Street, Mei Foo Sun Chuen Stage, 8 Mei Foo (23-25 June) HKPCC 2023 "Flourishing Primary Care: Family Doctor for Everyone" Conference information: https://www.hkpc.org.hk/ Online registration: https://www.hkpc.org.hk/registration	Mr Peter HO Tel: 3108 2514 1 CME Point HKPCC 2023 Conference Secretariat, The Hong Kong College of Family Physicians E-mail: hkpc@hkcfp.org.hk
26 MON 2:00 PM	Zoom Live Long Term Use of Antiplatelet Drug in Primary Care Organiser: The Hong Kong Medical Association Speaker: Dr Canice Lok-hang NG	HKMA CME Dept. Tel: 3108 2507 1 CME Point
27 TUE 2:00 PM	Zoom Live Treating to higher targets in psoriasis Organiser: The Hong Kong Medical Association Speaker: Dr Steven King-fan LOO	HKMA CME Dept. Tel: 3108 2507 1 CME Point
7:00 PM	Certificate Course on Update on Common Urinary Tract Disorders 2023 (Video Lectures) Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Wilson CHAN	Ms Vienna LAM Tel: 2527 8898
28 WED 2:00 PM	Zoom Live SGLT2 inhibitors: Delivering more evidences in cardiorenal protection Organiser: The Hong Kong Medical Association Speaker: Dr Enoch WU	HKMA CME Dept. Tel: 3108 2507 1 CME Point
7:00 PM	Certificate Course on Mental Health 2023 (Video Lectures) Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Calvin PW CHENG	Ms Vienna LAM Tel: 2527 8898
29 THU 2:00 PM	Zoom Live New Generation Basal Insulin: Importance of Early Insulinization for Glycaemic Control Organiser: The HKMA Network (Kowloon East) Speaker: Dr Steve Chi-tung CHUNG	Mr Peter HO Tel: 3108 2514 1 CME Point



Answers to Radiology Quiz

Answers:

1. Extensive symmetrical bilateral calcifications in the basal ganglia (blue arrows), thalami (yellow arrows), cerebellar dentate nuclei (red arrows) and medial occipital lobe gyri (green arrows). No mass effect or cerebral oedema.



2. Fahr's disease; Fahr's syndrome;
3. Work up for abnormal cerebral vascular calcium deposition, including primary causes (genetic testing) and secondary causes (endocrinopathies, infective, vasculitis, mitochondrial disorders). This patient was eventually confirmed with Fahr's disease by genetic testing.

Dr Ivan CHEUNG

MBBS, FRCR

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Hong Kong International HEAD AND NECK Conference

PREVENTION AND MANAGEMENT OF COMPLICATIONS

SATURDAY 17 JUNE 2023

Venue: Lecture Theatre, Cheung Kung Hai Conference Centre
Li Ka Shing Faculty of Medicine

WILLIAM I. WEI LECTURE

Orator: **Zhang Qiu Hang**

Xuanwu Hospital Capital Medical University

SCIENTIFIC PANEL

- Recurrent Head and Neck Tumour • Salivary Gland and Thyroid • Skull Base •
- Laryngo-pharynx • Innovations • Complications •

ROUND-TABLE CASE DISCUSSION

ONCOLOGY SYMPOSIUM



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