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出國報告(出國類別：參與學術研討會並張貼研究成果海報)

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第 96 屆國際牙科研究大會 96th
General Session and Exhibition of the
International Association of Dental
Research

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服務機關：衛福部臺中醫院

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派赴國家：英國

出國期間：民國 107 年 7 月 23 日至 29 日

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摘要

此次代表衛生福利部臺中醫院牙科參與在英國所舉辦的第 96 屆國際牙科研究大會〔96th General Session and Exhibition of the International Association of Dental Research〕。會議地點在倫敦 ExCel，本次主題則為平衡口腔內微生物並促進口腔健康〔Balancing the oral microbiome: proven benefits for oral health〕，總共邀請到 5 位分別來自英國與丹麥的教授分享其研究成果，另外整場大會也挑出兩位重點講師講述糖尿病與牙周病治療以及人類咬合的演化。參與會議除了可以瞭解到全世界目前最新的牙科研究成果與相關材料器械的更新發展之外，本人亦以臺中醫院名義張貼研究成果海報〔Applying Newly Developed Multilayer Capsules on Exposed Dentinal Tubules〕，在五天的會議過程中，也與世界各地從事牙科研究及臨床相關的夥伴交流，收穫良多。

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本文

「目的」

參與會議主要目的在於瞭解全世界牙科領域方面，包括細胞生物以及材料器械的最新發展，以及潮流趨勢所在，有利於日後研究計劃之進行，而本次大會的重點講者闡述新款藥物治療糖尿病相關之牙周病，已進行至 phase II 人體試驗，相信很快就能實際使用，因此能增加臨床知識並提供牙周病人日後多了另一個治療選擇。此外，本人所進行之研究計畫亦有初步成果，新研發之抗敏感牙膏基材應用於大鼠牙齒上，有顯著效果，是故以海報張貼於大會（圖片 1），並聽取其他相關研究領域人士的意見與指正，包含大鼠品系的多樣性、牙齒試片的處理以及統計分析的處理方式等等，可謂收益良多（圖片 2）。

「過程」

國際牙科研究組織的總部設在美國維吉尼亞州，其每年發行牙科 SCI 點數最高的期刊 Journal of Dental Research，是故能在其年會發表研究成果，日後有較大的機會能在該期刊發表文章。研究大會每年在世界各地挑選一個城市舉辦，今年則是在英國倫敦。

今年的大會主題為平衡口腔內微生物並促進口腔健康〔Balancing the oral microbiome: proven benefits for oral health〕，總共邀請到 5 位分別來自英國與丹麥的教授。重點羅列如下¹⁷：1. 人體本身口水即有相當高的免疫功能，其內含的 IgA 能做為指標來檢測免役功能，此外其內的補體系統也對微生物的平衡扮演重

要角色。2. 新發展的牙膏內添加 enzymes 與蛋白質，對於防治口腔內的 streptococcus 有抑制的效果，能明顯降低齲齒並增加牙齦健康。3. Sodium Lauryl Sulfate Free 的牙膏確實對於減輕咬合疼痛有益處，且能幫助口內軟組織的健康。而此次大會的重點教學演講分別是 University of Copenhagen 的 Jens Juul Holst 教授所講述的 "The Gut--Its Role in the Development of Obesity and Diabetes"⁸⁻¹²，除了再次從訊息傳遞的分生角度證明肥胖與 DM 以及 periodontitis 之緊密關係，更將重點聚焦在於 Type II DM 病人因 Hyperglucagonemia 與 Global Insulin resistance 及受損的對胰島素分泌，而使得牙周病的治療效果差，反覆發作。Jens 的實驗室則利用 Liraglutide 來幫助控制肥胖與血糖，並進一步在牙周病的手術治療過程後，達到控制牙周病復發的效果，其研究亦已進行至人體試驗之階段。

另外亦有 University of Arkansas 的 Peter S. Ungar 教授所講述的 "Evolution's Bite: Using Teeth to Reconstruct Diets of Human Ancestors"^{13,14}，主要在於其多年的考古成果，研究人類咬合的發展史。從猿猴、猩猩、尼安德塔人、克羅馬農人到現代智人，上下頷的大小差異極齒列的反展進程，並對現代人常見的咬合與顛顎關節疾病提出見解及看法。

其他較小的演講還包括了應用於診間內牙齒比色 Lab*發展的新儀器、用全部氧化鋯所製作的新款植體，以及改良型壓縮陶瓷的物理性質等等，都相當新潮有趣，讓人大開眼界。

「心得及建議」

處在網路發達知識爆炸的時代，身為臨床醫師更應該知道本身領域的發展與進步狀況，尤其現下許多病人都很有搜索新知的習慣，若臨床上遇到相關問題時，較能妥善回應。另外，臺灣的學者在研究時，都很專精鑽研在幾個熱門領域，然而到了國外，可以發現國外學者的研究非常廣泛、包羅萬象，五花八門，像是從恐龍羽毛到禿髮再生又或者從猿人齒列到顛顎關節疾病，這部份真的是臺灣學者難以望其項背的部份，值得我們深思。

最後非常感謝醫院此次能提供我這個機會出國參與學術大會，增進本身相關知識與研究能量，另外也能提高本院牙科之能見度。

圖片

Sq04: 348 Friday, 27 July 2018, 3:45 p.m. - 5 p.m.
Poster Session, 510 Exhibits/Posters, Level 1

Dental Materials 5: Biocompatibility and Biologic Effects of Materials - Biocompatibility, Bioengineering and Biologic Effects of Materials VI

SC2429 Marginal Seal of Relocated Cervical Margins of MOD Overlays. S. KÖKEN*, J. JLOSŰ, R. SORRENTINO, S. GRANDINI, M. FERRARI (Department of Prosthodontics and Dental Materials, School of Dental Medicine, University of Siena, Italy, 53100, Siena, Italy)

S2430 Optimization of a Bioglass/Polysulfone Bar for Caries Removal. M. ALHAZMI*, D. HERZOG, G. KOLLER, I. THOMPSON, T. WATSON (Dental Institute, Kings College London, London, United Kingdom)

SC2431 Quantification of Tooth Wear Using White Light Profilometry Following Polishing. H. HUSSAIN*, D. GILLAM, R. HILL (Periodontology, Queen Mary University of London, Canary Wharf, UK, United Kingdom)

S2432 Effectiveness of Preventive Treatments in Dentine Erosion. S. YAMAKAMI*, J. FARACI-ROMANO, L. BACI-MANINI, C. DOMINGUEZ, R. PALMA-DIBB (Restorative Dentistry, School of Dentistry, University of Sao Paulo, Ribeirão Preto, Sao Paulo, Brazil)

C2433 In-Vitro Cytotoxicity Evaluation of Three Low-Friction Abutment Coatings. M. GIAYATTO*, S. BORTOLINI, A. BIANCHI, A. NATALI, J. GIANNATHEMO, A. CUCCHI, D. BELLUCCI, R. SALVATORI, V. CANNILLO, U. CONSOLO (Università di Modena e Reggio Emilia, Modena, Italy)

E2434 Ion-releasing Influences to Surface Hardness of Bioactive Filling Material. N. TARARATSATID, N. VONGPHAN, N. INTRANONT, R. ROJANATHANES, P. RONGPRUEKSA* (Department of Operative Dentistry and Endodontics, Faculty of Dentistry, Mahidol University, Bangkok, Thailand)

SE2435 Influence of Bleaching agents pH on Changes in Enamel Surface Roughness. D. BETANCOURT*, P. BALDION (Oral Health, Universidad Nacional de Colombia, Bogota, Colombia)

2436 Effects of Disinfection Methods on Cytotoxicity in Dentin Barrier Testing. R. JIANG*, H. LIN, G. ZHENG, S. YUAN (Peking University School and Hospital of Stomatology, Beijing, China)

SE2437 Are RMGICs Capable to Form Apatite and Remineralise Like GiCo2. B. ALSHIBRI*, M. PATEL, N. KARPUKHINA (Institute of Dentistry, Barts and The London School of Medicine and Dentistry, Queen Mary University of London, London, United Kingdom)

SC2438 Biomodification of Class-V Restorative Material by Incorporation of Bioactive Agents. T. BINAJADM*, R. MOOREHEAD, T. ALMELA, K. FRANKLIN, L. TAYEBI, K. MOHAMAMZADEH (University of Sheffield, Sheffield, United Kingdom)

2439 Bonding of a Novel Bioactive Restorative Material to Dentine. B. HARPER*, P. NEELAKANTAN, H. HAMAMA (Faculty of Dentistry, HKU, Hong Kong, Hong Kong)

2440 Applying Newly Developed Multilayer Capsules on Exposed Dentineal Tubules. C.-Y. LIN*, K.-H. CHIU, T.-R. CHUNG, J.-E. YANG, Y.-Y. GAO, C.-J. KE (Dentistry, Taichung Hospital, Ministry of Health and Welfare, Taichung, Taiwan)

C2441 Effect of Light Irradiation on Cytotoxic of Self-adhesive Resin Cements. X. MENG* (Department of Prosthodontics, Nanjing Stomatological Hospital, Medical School of Nanjing University, Nanjing, Jiangsu, China)

SC2442 Tubular Occluding Effects of Various Bioactive Glass Loading in Toothpaste. T. FONG*, D. GILLAM, R. HILL (Adult Oral Health, Barts and the London School of Medicine and Dentistry, QMUL, London, United Kingdom)

S2443 Evaluation of the Biocompatibility of Novel BPA-free, Fluorinated Fiber-reinforced Composites. T. WANG*, J. HE, J. MATINUNNA, K. AHMED (Operative Dentistry, University of Hong Kong, HK, Hong Kong)

Sq04: 349 Friday, 27 July 2018, 3:45 p.m. - 5 p.m.
Poster Session, 510 Exhibits/Posters, Level 1

Dental Materials 8: Clinical Trials - Clinical Trials: Adhesives

SC2444 A 12-Month Clinical Evaluation of Three Different Universal Adhesives in the Restoration of Non-Carious Cervical Lesions. F. ÖZ*, Z. KUTLUK, C. ÖZTURK, R. SOLEIMANI, S. GURGAN (Restorative Dentistry, Hacettepe University Faculty of Dentistry, Ankara, Turkey)

C2445 Selective Etching With a Universal Adhesive in Non-Carious Cervical Lesions. M. ROUSE, J. MAY, J. PLATT*, G. ECKERT, K. DIEBENDERFER, O. CAPIN, M. KIRKUP, N. COOK (Indiana University, Indianapolis, Indiana, USA)

2446 18-month Follow-up of Composite Restorations With Non-MDP Universal Adhesive System. M. BARCELBROM, L. LOPES, F. CALAZANS, E. ALBUQUERQUE, A. REIS, A. LOGUERIO (Restorative Dentistry, Fumense Federal University, Teresopolis, Rio de Janeiro, Brazil)

C2447 Assessment of a Universal Adhesive: 24-Months Clinical Results vs. OCT. H. SCHNEIDER*, M. HAEFFER, P. SCHMIDT, M. HÄHNEL, F. KRAUSE, R. HAAK (Department of Cariology, Endodontology and Periodontology, University of Leipzig, Leipzig, Saxony, Germany)

2448 12-month Clinical-performance of a Glass-hybrid-restorative in Non-carious-cervical-lesions of Patients With Bruxism. S. GURGAN*, U. KOÇ, VURAL, E. YILDIZ, F. YALÇIN, CAKIR, E. ERGIN (Dept. Restorative Dentistry, Hacettepe University, Ankara, Turkey)

S2449 Twelve-month Clinical Evaluation of Universal Adhesive's Different Application Modes. A. USLU*, A.R. YAZICI (Department of Restorative Dentistry, Hacettepe University, Ankara, Turkey)

Sq04: 350 Friday, 27 July 2018, 3:45 p.m. - 5 p.m.
Poster Session, 510 Exhibits/Posters, Level 1

Dental Materials 7: Color and Appearance (Esthetics) - Color and Appearance (Esthetics) III

2450 The Color Stability of Gingival Shade Dental Composites. S. MARCHAN*, L. LYNCH, W. SMITH, R. RAFFEEK (School of Dentistry, The University of the West Indies, Champs Fleurs, Trinidad and Tobago)

C2451 Visual Versus Digital Tooth Color Matching II. W. HANNAK*, H. JAKSTAT, K. BÖNING, T. KLJNKE, F. BEUER (Prosthodontics, Geriatric Dentistry and CMD, Charité University, Berlin, Germany)

SE2452 Evaluation of Shade Matching Abilities of Dental Students and Dentists in Different Age Groups. A. AKSOY*, F. BAYINDIR (Department of Prosthodontics, Ataturk University, Faculty of Dentistry, Erzurum, Turkey)

2453 In Vitro Tooth Colour Measurement Using a Non-contact Imaging Method. I. MANIATH*, C. PHILPOTTS, A. JOINER, S. HARDING, M. WOOLFALL, P. QUINNINGHAM, F. BAINES, S. WESTLAND (Unilever Oral Care, Basington, United Kingdom)

FRIDAY

圖 1 大會手冊內 2440 號為本院牙科所張貼之研究成果海報

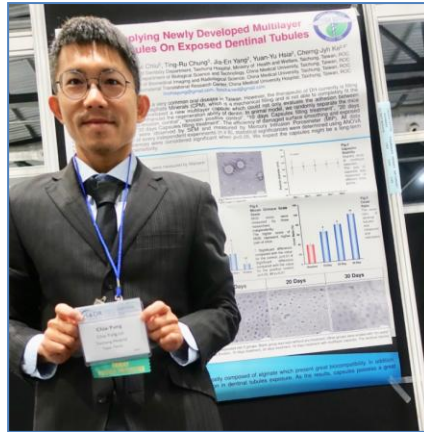


圖 2 海報揭示會場

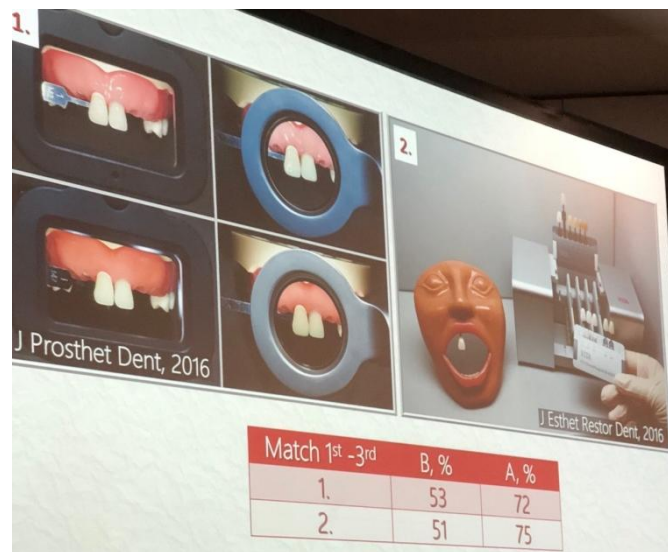


圖 3 新型牙齒比色

UT DALLAS Background

Dental Implant Systems:

- Survival rates of 90.9-97.7% over 15 years
- Implant screws typically made from titanium (Ti):
 - High tensile and fatigue strength
 - Ease of fabrication and surface treatment
 - Passive oxide layer (TiO₂):
 - Biocompatibility
 - Corrosion resistance
 - Osseointegration with bone tissue
- Zirconia (ZrO₂) as an alternative dental biomaterial:
 - High flexural strength
 - Immune to corrosion

Figure 1. Components of a dental implant system (left), Ti dental implant screws (middle), and osseointegration established on Ti surface (right).

Ti ZrO₂

圖 4 氧化鋯植體

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