

Symposium of 2024 Guidelines of the TSO on the Primary Prevention of Atherosclerotic Cardiovascular Disease

Time: 09:00-12:00, March 24, 2024

Venue: 大臺南會展中心 1 樓努山塔里亞 A (台南市歸仁區歸仁十二路 3 號)

Time	Topic	Speaker	Chair
09:00-09:05	Opening Remarks		蔡良敏
09:05-09:20	Development of this Guidelines: Why, When, How, and What?	趙庭興	蔡良敏
09:20-09:35	DM: Impact, Preventive Strategies, and Interventions	林宗憲	劉秉彥
09:35-09:50	Dyslipidemia: Impact, Preventive Strategies, and Interventions	黃金洲	劉秉彥
09:50-10:05	Obesity: Impact, Preventive Strategies, and Interventions	鄭正一	王宗道
10:05-10:20	Panel Discussion		王宗道
10:20-10:35	Healthy Break		
10:35-10:55	Mental disorders and socioeconomic stress/frailty	王朝平	蔡惟全
10:55-11:10	MAFLD/COPD/Nephrolithiasis: What Should We Do?	張瑋婷	蔡惟全
11:10-11:25	Dietary Pattern for General and Specific Population	潘文涵	陳志成
11:25-11:40	Fatty acid/fish oil supplements, red yeast, and antiplatelet therapy	朱志生	陳志成
11:40-11:55	Panel Discussion		李貽恒
11:55-12:00	Closing Remarks		李貽恒

Name: 趙庭興(Chao Ting-Hsing)

甲、現職：

- 1、中山醫學大學醫學院醫學系內科教授兼中山醫學大學附設醫院副院長。
- 2、國立成功大學醫學院醫學系內科教授兼心臟血管科主治醫師。
- 3、行政院衛生福利部醫院評鑑委員、緊急醫療能力評定委員。
- 4、財團法人醫院評鑑暨醫療品質策進會「疾病品質照護認證」委員、「國家醫療品質獎」委員、「台灣臨床成效指標」小組委員、冠狀動脈疾病指標工作小組召集人。
- 5、中華民國心臟學會第 28 屆副理事長；台灣心臟基金會董事。
- 6、台灣高血壓學會第 9 屆理事、台灣醫療品質協會第 11 屆理事。

乙、經歷：

- 1、國立成功大學醫學院附設醫院主任秘書、門診部主任、公共事務室主任、健康管理中心主任。
- 2、國立成功大學醫學院附設醫院品質中心副主任、心臟血管科主任、斗六分院副院長兼品管中心主任、斗六分院醫務秘書兼內科部主任。
- 3、內科專科訓練醫院訪視委員、財團法人醫院評鑑暨醫療品質策進會「醫院品質績效量測指標系統與落實品質改善計畫」稽核委員。
- 4、台灣介入性心臟血管醫學會第 5、6 屆理事、第 7 屆監事暨公共醫療政策委員會召集人；台灣醫療品質協會第 9、10 屆理事。
- 5、台灣高血壓學會第 6、7、8 屆理事、中華民國心臟學會第 22 屆副秘書長及第 27 屆秘書長、中華民國血脂及動脈硬化學會副秘書長、雲林縣醫師公會理事、健保署南區分局西醫健保審查心臟血管召集人。

丙、學歷：台北醫學大學醫學士。

丁、海外進修：日本國立京都大學大學院醫學研究部研究員。

戊、專科醫師：內科醫學會、心臟學會、急救加護醫學會(重症)、介入；高階醫品師。

己、專科指導醫師：內科醫學會、心臟學會。

庚、榮譽及受獎：

- 1、第 30、31 屆及第 38 屆中華民國心臟醫學會(TSOC)年會最佳海報獎。
- 2、93、105、106、111 年國立成功大學醫學中心內科部主治醫師最佳研究獎。
- 3、國立成功大學醫學院(94、95、96 年度)最佳教學主治醫師。
- 4、97、99 及 100 年國立成功大學醫學中心醫療科技研究計劃成果海報獎。
- 5、2010、2015、2017、2022 TSOC 高血壓治療指引編撰委員。
- 6、2013 年美國心臟學院(ACC)年會最佳海報論文獎。
- 7、FACC、FESC 及 FAPSC；2014 年台灣內科醫學會最佳海報論文獎。
- 8、2017 年中華民國血脂及動脈硬化學會血脂治療指引編撰委員。
- 9、2018、2020 年 TSOC 糖尿病心血管藥物治療共識編撰委員。
- 10、2021 年 TSOC Fabry's Disease 診斷治療共識編撰委員。
- 11、2023 年 TSOC 慢性冠心病治療指引編撰委員。
- 12、2023 年 TSOC 心衰竭藥物治療專家共識編撰委員。
- 13、2023 年 TSOC Cardiac Amyloidosis 診斷治療共識編撰委員。
- 14、2024 年 TSOC Primary Prevention of ASCVD 指引編撰委員會主

席。

- 辛、專長：醫療品質管理；心導管介入治療；高血壓；動脈硬化基因學；血管新生；幹細胞研究。
- 壬、論文：期刊論文 155 篇，會議論文 115 篇。科學雜誌審查委員及特刊編輯召集人：國際期刊 50 餘本。
- 癸、全球性多中心大型臨床研究國家總聯絡人、總計劃主持人、主持人：30 餘個。其中，擔任全國 T-FORMOSA study Steering Committee Chair。

Tsung-Hsien Lin, MD, MSc, PHD, FESC, CPI 林宗憲

Education

September 1989 – June 1996

Department of Medicine, Kaohsiung Medical College, M.D. degree

September 1999 – June 2002

Graduate Institute of Clinical Medicine, Kaohsiung Medical University, Master of Science degree (MSc)

September 2003 – June 2007

Graduate Institute of Clinical Medicine, Kaohsiung Medical University, PHD degree

Current position

August 2013 – Present

Professor, Department of Internal Medicine, Faculty of Medicine, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan, R.O.C.

August 2023- Present

Vice superintendent, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan, R.O.C.

August 2001 – Present

Attending Physician, Division of Cardiology, Department of internal medicine, Kaohsiung Medical University Hospital, Kaohsiung, Taiwan, R.O.C.

August 2022 ~ May 2024

28th Executive, Taiwan Society of Cardiology (TSOC)

Dec 2022 ~ Nov 2024

9th Executive, Taiwan Hypertension Society (THS)

Nov 2021 ~ Sep 2024

10th Supervisor, Taiwan Society of Lipids & Atherosclerosis (TSLA)

Jan 2015-

Deputy editor in chief, Acta Cardiologica Sinica (SCI)

Specialty: Internal medicine, cardiology, critical care

Publication: 292 SCI papers

Scientific meeting: 53 papers

Last update 20240121

# CURRICULUM VITAE

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## 基本資料:

姓名: 黃金洲 Chin-Chou Huang, MD, PhD  
地址: 台北市北投區石牌路二段 201 號臺北榮民總醫院  
E-mail: [cchuang4@vghtpe.gov.tw](mailto:cchuang4@vghtpe.gov.tw)  
[huangchinchou@gmail.com](mailto:huangchinchou@gmail.com)

## 目前職位:

國立陽明交通大學內科學科教授  
國立陽明交通大學藥理學科教授  
臺北榮民總醫院內科部心臟內科主治醫師  
中華民國血脂及動脈硬化學會副秘書長  
台灣血脂衛教協會理事  
台灣醫學教育學會副秘書長  
財團法人心臟醫學研究發展基金會副秘書長  
高級心臟救命術指導員(ACLS instructor)  
中華民國心臟學會專科指導醫師  
中華民國重症醫學會專科指導醫師

## 學歷:

國立陽明大學醫學系醫學士  
國立陽明大學藥理研究所博士

## 經歷:

臺北榮民總醫院內科部住院醫師  
臺北榮民總醫院內科部心臟內科總醫師  
德國柏林心臟醫學中心(German Heart Institute Berlin)研究員

### 教育訓練

1. 高雄醫學大學醫學系畢業 (1990.09~1997.06)
2. 哈佛大學進修研究 (2008.9~2010.8)
3. 長庚大學臨床醫學研究所博士班畢業 (2006.09~2012.06)

### 現職

1. 高雄長庚紀念醫院教授級主治醫師 (2023.07 至今)
2. 長庚大學兼任副教授 (2017.02 至今)

### 經歷

1. 高雄長庚紀念醫院心臟內科主任 (2017.07~2022.06)
2. 高雄長庚紀念醫院內科部副主任 (2015.07~2017.06)
2. 高雄長庚紀念醫院健檢中心主任 (2013.10~2017.09)
3. 高雄長庚紀念醫院心臟內科主治醫師 (2003.08 至今)
4. 高雄長庚紀念醫院心臟內科研究員 (2001.08~2003.07)
5. 高雄長庚紀念醫院內科部住院醫師 (1997.07~2000.06)

教職 部定副教授 (2017.08)

### 專業證照

1. 中華民國內科專科醫師(內專醫字第 005655 號) (2000.12)
2. 中華民國心臟學會專科醫師(92)中心專醫字第 013 號 (2004.01)
3. 中華民國心臟學會心臟血管介入治療專科醫師第 0306 號 (2007.11)
4. 中華民國心臟學會專科指導醫師 (99)中心專指醫字第 009 號 (2010.04)

### 榮譽

1. 中華民國心臟學會最佳論文第二名(2008)
2. 中華民國心臟學會最佳青年研究獎第一名(2012)

專長：冠狀動脈介入治療、血管生物學、心臟衰竭

論文及研究：SCI 醫學論文 70 篇

專業學會：台灣心肌梗塞學會理監事、中華民國心臟學會理事

公共事務：醫策會健康檢查品質認證委員、衛福部醫審會鑑定委員、高雄地方  
法院調解委員

王朝平醫師

現職

義大醫院心臟內科主任醫師  
義大癌治療醫院內科部副部長

學歷

高雄醫學大學醫學系  
義守大學生物技術及化學工程研究所博士

經歷

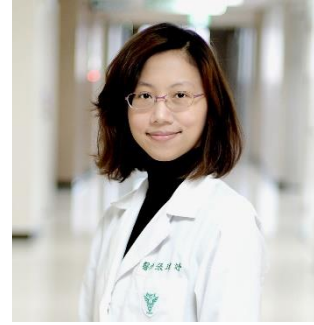
教育部及義守醫學大學國際醫學系專任教授  
中華民國內科醫學會專科醫師  
中華民國心臟內科醫學會專科醫師  
臺灣介入性心臟血管專科醫師  
台灣心肌梗塞學會理事

專長

- (1)狹心症、冠狀動脈心臟病、心導管手術、冠狀動脈整形術及支架置放
- (2)周邊動脈阻塞治療、包括頸動脈及腎動脈支架置放術等
- (3)充血性心臟衰竭、瓣膜性心臟病、心臟超音波
- (4)心律不整、心律調節器植入
- (5)困難及次發性高血壓治療、重症醫療

## Curriculum Vitae

Name: 張瑋婷 Wei-Ting Chang, M.D., PhD  
Office Address: Division of Cardiology, Department of Internal Medicine,  
Chi-Mei Medical Center, 901, Chung-Hwa Road, Yung-  
Kang City, Tainan, Taiwan.  
cmcvecho2@gmail.com



## Education and Experience

**2000/9 – 2007/6** Department of Medicine, National Cheng Kung University,  
Tainan, Taiwan  
*Doctor of Medicine, 2007*

**2013/9 –2014/8** Brigham and Women's Hospital, Harvard University, MA, USA  
*Research Fellow, Cardiac Muscle Research Laboratory*

**2019/8 – 2023/06** Graduate Institute of Clinical Medicine, National Cheng  
Kung University, Taiwan *PhD*

**2023/07** Visiting Scholar with certificate of Precisional Medicine in St.  
Edmund Hall, Oxford (OXCEP)

## Professional Experience

**2014/8-** Chi-Mei Medical Center, Tainan, Taiwan  
*Attending physician, Department of Cardiology*

**2020/08-** Southern Taiwan University of Science and Technology,  
Taiwan  
*Associate Professor, Department of Biotechnology*

**2023/08** National Sun Yat-sen University, Taiwan  
*Associate Professor, Department of Clinical Medicine*

## Awards and Honors

**2017-2019** The best annual research award in Chi-Mei Medical Center

**2018** TA-YOU WU MEMORIAL AWARD (吳大猷先生紀念獎)

**2017** Young investigator award in Taiwan Society of Cardiology

**2023** The Phi Tau Phi Scholastic Honor (斐陶斐榮譽會員)

## Publications

1. **Chang WT, Hsieh TH, Liu MF.** Systemic lupus erythematosus with initial presentation of empyematous pleural effusion in an elderly male patients: a

- diagnostic challenge. *Journal of Microbiology, Immunology and Infection*. 2012, 46(2):139-42 (IF:2.955)
2. **Chang WT**, Chen JY, Li Yi-Heng, Tsai LM, Lee CH. A two-case series of entrapment of a ruptured balloon in the coronary artery: avoidable complications and non-surgical management. *J Formos Med Assoc*. 2015 Nov;114(11):1135-9 (IF:2.018)
  3. **Chang WT**, Tsai WC, Lin CC. [Interarterial course of coronary artery anomaly presenting as Brugada-like ECG and aborted cardiac death-Multidisciplinary images facilitate the diagnosis.](#) *J Formos Med Assoc*. 2013 Sep;112(9):580-2. (IF:2.018)
  4. **Chang WT**, Lee CH, Massive Coronary Aneurysm After Multiple Percutaneous Interventions--- An Iatrogenic or Unpreventable Disaster?"2013, *JACC: Cardiovascular Intervention*, 2014 Jan;7(1):104-5 (IF:7.345)
  5. **Chang WT**, Tsai WC, Liu YW, Lee CH, Liu PY, Chen JY, Li YH, Tsai LM. Changes in Right Ventricular Free Wall Strain in Patients with Coronary Artery Disease Involving the Right Coronary Artery, *Journal of the American Society of Echocardiography*, 2014 Mar;27(3):230-8. (IF:4.056)
  6. Chang CL, Lee PT, **Chang WT**, Chang CS, Chen JH, Tsai LM, Wu CH, Liu PY. The interplay between inflammation, physical activity and metabolic syndrome in a remote male geriatric community in Southern Taiwan: the Tianliao Old People (TOP) study 03. *Diabetology & Metabolic Syndrome* 2013, 5:60 (IF:2.119)
  7. Hiremath P, Bauer M, Aguirre AD, Cheng HW, Unno K, Patel RB, Harvey BW, **Chang WT**, Groarke JD, Liao R, Cheng S. [Identifying early changes in myocardial microstructure in hypertensive heart disease.](#) *PLoS One*. 2014 May 15;9(5):e97424. (IF:3.534)
  8. **Chang WT**, Chen JS, Hung YK, Tsai WC, Juang JN, Liu PY. [Characterization of aging-associated cardiac diastolic dysfunction.](#) *PLoS One*. 2014 May 28;9(5):e97455. (IF:3.534)
  9. **Chang WT**, Tsai YS, Tsai WC, Chen JY. [Left ventricular noncompaction cardiomyopathy: An under-recognized disease diagnosed by echocardiography and computed tomography.](#) *Kaohsiung J Med Sci*. 2014 Jul;30(7):376-7. (IF:1.73)
  10. Liu PY, Lee PT, **Chang WT**, Tai YL, Chao TH, Lee CH, Li YH, Chen JH, Tsai LM, Liao JK. [Evidence of pleiotropy by statins: leukocyte Rho kinase \(ROCK\) activity and pretreated statin before percutaneous coronary interventions are clinical vascular outcome predictors.](#) *Int J Cardiol*. 2014 Sep;176(1):250-3 (IF:4.036)



**Wen-Harn Pan, PhD , FAHA, FIUNS**  
**Distinguished Research Fellow**  
**Institute of Biomedical Sciences, Academia Sinica**

Dr. Wen-Harn Pan obtained her PhD from Division of Nutritional Sciences, Cornell University in 1983 and then did her post-doctoral training in cardiovascular epidemiology, statistics, and nutrition at the Department of Preventive Medicine, Northwestern University, Chicago. She has joined IBMS since 1987 and is currently a distinguished Professor in IBMS.

Dr. Pan has established a community-based cardiovascular cohort study in Chu-Dong and Putze since 1989 and led the Nutrition and Health Survey in Taiwan since 1992. Dr. Pan has more than 358 publications with regards to cardiometabolic diseases, obesity and nutrition and currently engages in nutrition-disease genomics and metabolomics research, dietary therapy for CVD and geriatric diseases, and worksite health body promotion programs.

She obtained Outstanding Research Award from Taiwan Society of Nutrition in 2004, Lifetime Achievement Award from Asia Pacific Society of Clinical Nutrition in 2010, and Outstanding Contributions in Science & Technology Award of Executive Yuan (equivalent to State Department), Taiwan in 2015. She is an international fellow of American Heart Association and a fellow of International Union of Nutritional Sciences. She is currently appointed as a member of EAT-Lancet commission 2.0 for Planetary Health Diet.

\*姓名：朱志生

\*科別：心臟血管內科

\*現任：

高雄市立大同醫院內科主任

高雄市立大同醫院心臟內科主任

高雄醫學大學附設醫院心臟內科主治醫師

高雄醫學大學醫學系內科兼任副教授



## 學歷

1988/09-1995/06 高雄醫學大學 醫學系 醫學士

2001/09-2004/07 高雄醫學大學 醫學研究所 臨床醫學組碩士 (93)高醫碩字第51102 號

2005/09-2014/06 高雄醫學大學 醫學研究所 臨床醫學組博士 (103)高醫博字第800007 號-

## 經歷

1997/08-2000/07 高雄醫學大學附設醫院內科住院醫師

2000/08-2002/07 高雄醫學大學附設醫院內科總醫師

2002/08-2010/03 高雄醫學大學附設心臟內科主治醫師

2002/01-2002/04 美國維吉尼亞大學心臟內科重症加護病房觀察員

2002/04-2007/07 高雄醫學大學心臟內科加護病房專責主治醫師

2005/08-2006/01 高雄市立小港醫院內科主治醫師

2007/02-2018/07 高雄醫學大學醫學系 內科助理教授

2007/08-2009/04 美國休士頓德州醫學中心貝勒醫學院

動脈粥狀硬化及脂蛋白研究中心進修

2009/04-2010/03 高雄醫學大學心臟內科加護病房專責主治醫師

2010/03-迄今 高雄市立大同醫院 心臟內主治醫師暨心導管室主任

2013/12-2017/07 高醫血脂生科研究中心核心實驗室主任

2017/08-2018/07 高醫血脂生科研究中心主任

2014/06 -2016/05 中華民國心臟學會第 24 屆財務委員會委員

2016/07-2018/05 中華民國心臟學會第 25 屆醫療品質暨政策委員會委員

2021/02~2022/02 高雄醫學大學醫學系 內科兼任助理教授

2021/03~2024/03 台灣心肌梗塞學會 第一屆研究委員會委員

2022/03~迄今 高雄醫學大學醫學系 內科兼任副教授

2022/05~2025/05 台灣營養精神研究學會 第三屆理事

2022/08~迄今 高雄市立大同醫院 心臟血管內科 主任

2022/09~2024/09 中華民國心臟學會第 28 屆預防醫學委員會委員

2023/08~迄今 高雄市立大同醫院 內科主任

## 臨床專業

內科學 / 循環學

介入性心導管治療

心臟超音波檢查

心臟重症醫學

動脈粥狀硬化與血脂異常研究

## 證書、執照

內科專科醫師 內專醫字第 005700 號

台灣內科醫學會會員 會員編號 5833 號

中華民國心臟學會專科醫師 (91) 中心專醫字 002 號

中華民國心臟學會『心臟血管介入專科醫師』證書 證號 0269

中華民國心臟學會專科指導醫師證書 (105) 中心專指醫字第 002 號

中華民國重症醫學會 重症醫學專科醫師證書 (97)中重專字第 2225 號 專醫  
SC1143

急救加護學會重症專科醫師 重症專醫字第 1002 號

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**Symposium of 2024 Guidelines of the TSOC on the Primary Prevention of  
Atherosclerotic Cardiovascular Disease**

**1. Scope, features, and key messages of the guidelines**

**2. Development of this guideline: Why, when, how, and what?**

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1. The 2024 Guidelines of the Taiwan Society of Cardiology on the Primary Prevention of Atherosclerotic Cardiovascular Disease: for the first time in the society.
2. Novelties of the current guidelines: focus on ASCVD prevention; comprehensive but not wordy with going details in each factor or disease entity; covering local features (metabolic syndrome, hyperuricemia, hepatitis C, colon polyps, nephrolithiasis, and life medicine, etc); cite largely local studies; covering primordial prevention; logistic thinking approach.
3. In order to enhance medical education and health promotion not only for physicians but also for public, we proposed a slogan (2H2L) for primary prevention of ASCVD on the basis of the essential role of healthy dietary pattern and lifestyles: “Healthy Diet and Healthy Styles to Help Your Life and Save Your Lives”. We designed an acronym of the modifiable risk factors/enhancers and relevant strategies to facilitate memories: “ABC2D2EFG-I’M2 ACE”: Adiposity, Blood pressure, Cholesterol and Cigarette smoking, Diabetes mellitus and Dietary pattern, Exercise, Frailty, Gout/hyperuricemia, Inflammation/infection, Metabolic syndrome and Metabolic dysfunction-associated fatty liver disease, Atmosphere (environment), Chronic kidney disease, and Easy life (sleep well and no tension).

Today’s talk will cover above issues.

## DM: Impact, Preventive Strategies, and Interventions

高雄醫學大學 附設中和紀念醫院

心臟血管內科

林宗憲

Regular monitoring for the development of type 2 diabetes in those with prediabetes annually is recommended. Lifestyle modification to prevent or delay the onset of type 2 diabetes is recommended.

The target HbA1c is <7% for the diabetics.

## Dyslipidemia: Impact, Preventive Strategies, and Interventions

黃金洲

國立陽明交通大學醫學院內科學科/藥理學研究所

臺北榮民總醫院內科部心臟內科

- 針對血脂異常患者的動脈硬化性心血管疾病初級預防，需要根據個體的共病症和其他危險因子進行危險分層。
- 初級預防的三個高風險族群的患者，包括糖尿病患者、尚未需要透析的慢性腎臟病患者或低密度脂蛋白膽固醇(LDL-C)  $\geq 190$  mg/dL 的患者屬於高風險族群，應立即進行血脂治療，低密度脂蛋白膽固醇目標為 <100 mg/dL。
- 若非上述三個高風險族群的患者，應依據危險因子個數決定低密度脂蛋白膽固醇目標，分別是兩個危險因子(<115 mg/dL)、一個危險因子(<130 mg/dL)或無危險因子 (<160 mg/dL)。Non-HDL-C 可以當次要標的，目標數值為低密度脂蛋白膽固醇加 30 mg/dL。
- Statins 為第一線治療，起始先用中等強度 statins 為合理選擇，如果未達目標再增加到高強度 statins。如果治療未達目標或者無法耐受 statins 可考慮使用 ezetimibe。如果使用高強度或最大耐受 statins 和 ezetimibe 仍無法達到目標，可考慮使用 PCSK9 抑制劑。

# **Obesity: Impact, Preventive Strategies, Interventions**

20231216

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Obesity is strongly linked to an increased risk of various cardiovascular diseases (CVDs), including hypertension, diabetes, dyslipidemia, metabolic syndrome, and sleep apnea. It is recognized as a major risk factor for the development of atherosclerotic cardiovascular disease (ASCVD). The National Health Promotion Administration of Taiwan has been utilizing specific diagnostic cut points for overweight and obesity since 2013, taking into account the degree of comorbidity, overall mortality rate, and public health epidemic screening. These cut points are based on body mass index (BMI) measurements, with a BMI of  $\geq 24$  kg/m<sup>2</sup> being considered overweight, and a BMI of  $\geq 27$  kg/m<sup>2</sup> indicating obesity. The proportion of individuals with a normal BMI ( $18.5 \leq \text{BMI} < 24$  kg/m<sup>2</sup>) gradually declined over time, from 58.1% in the first wave to 51.5% in the second wave and further decreasing to 49.2% in the third wave of the Taiwan National Nutrition and Health Change Survey (2013-2016). Based on the data of National Health Interview Survey collected in 2013, it is estimated an 18% reduction in CVDs could be achieved if obesity/overweight can be prevented. The pathogenesis of obesity is complex and multifactorial, involving energy imbalance, hormone disorder, genetic disease, gut microbiota and medications. Targeting a weight loss of 5-10% is recommended as an initial goal, as this has been shown to yield significant health benefits in the context of metabolic syndrome and cardiovascular disease. This talk aims at giving an introduction into obesity in CVD, with special focus on definition, prevalence, pathogenesis and management. The details of impact, preventive strategies, interventions will be discussed.

## Mental disorders and socioeconomic stress/ Frailty

王朝平

*Abstract:* The prevalence of probable common mental disorders in Taiwan doubled from 11.5% in 1990 to 23.8% in 2010. The report of Taiwan National Health Insurance Administration, there was approximately 2.8 million patients with psychological disorders to search for medical aid in 2019. According to extensive cohort studies, the prevalence of frailty in community-dwelling residents over 65 years is about 5.0%<sup>392</sup> and 6.4% more than 50 years<sup>393</sup> in Taiwan.

Mental disorders (e.g. anxiety, mood, psychotic, personality, eating, sleep, sexuality related or others disorders) were developed mainly from psychosocial stress which was directly associated with socioeconomic and behavior risk factors. The impact of mental disorders is independently from traditional CVD risk factors and is associated with an increased risk of the development, progression and worse CV outcomes. The association between CVD and frailty is strong and bidirectional. Lifestyle risk factors such as smoking, low physical activity, and economic stress, and aging link pathways between CVD and frailty.

Physicians should be aware of the emerging and strengthening evidence that mental disorders or socioeconomic stress is associated with development and worse outcome of ASCVD and might advise patients to implement healthy lifestyles for primary prevention of this factor. Some lifestyle interventions, such as dietary quality, micronutrient supplementation, and exercise training, may be considered to prevent and attenuate frailty

## **MAFLD/COPD/Nephrolithiasis: What Should We Do?**

奇美醫院 心臟內科 張瑋婷醫師

### **CVD v.s. MAFLD**

1. Despite overlapped risk factors for CVDs and MAFLD, patients with MAFLD can develop CVDs and vice versa.
2. Beyond lifestyle, insulin resistance, systemic inflammation, cytokines, oxidative stress, adipokines, nowadays intestinal microbiota and genetic disorders are also regarded as risk factors.
3. The recommended non-pharmacological interventions include dietary control (Mediterranean diet), lifestyle changes, aerobic exercise, and weight loss surgery, with a suggested weight reduction of 7-10%.
4. Regarding pharmacological interventions, randomized clinical trials and integrated analysis have confirmed that GLP-1 RA can improve liver fibrosis, while the effects of SGLT2 inhibitors on liver fibrosis require further research confirmation. Both GLP-1 RA and SGLT2 inhibitors can improve cardiovascular event risk in patients with type 2 diabetes.

### **CVD v.s. COPD**

1. CVDs are tightly linked to COPD with complex interactions between genetics, behavioral, metabolic, infectious, inflammation and environmental risk factors
2. Approximately 10% of individuals aged above 40 years have COPD, the prevalence increases with age
3. Strategies through vaccination, tight control CV risk factors and modify lifestyle.
4. Some CV medications may have a beneficial impact on COPD outcomes, but there have been concerns about  $\beta$ -blocker

### **CVD v.s. Nephrolithiasis**

1. Nephrolithiasis is an independent risk factor for hypertension, diabetes, metabolic syndrome (MS), myocardial infarction and stroke, especially for the younger or female
2. MS promotes nephrolithiasis by altering urine composition (eg. urinary calcium, uric acid) also promotes oxidative stress, endothelial dysfunction, arterial and valve calcification
3. Kidney stone disease should be regarded as a systemic disorder linked to MS.



## Dietary guideline for general and specific population

### 演講摘要

Assess energy requirement to achieve and maintain healthy body weight. Eat a balanced and diverse diet composed of recommended amounts of six food groups: grains/tubers/roots, vegetables, fruits, protein foods, nuts/seeds/oil, and dairy at one's personalized energy level as recommended by the Taiwanese food guide and preferentially Mediterranean or DASH diet patterns. Those who with hyperglycemia, hypertension, hyperlipidemia and hyperuricemia should be referred to registered dietitians and follow a strengthened DASH or Mediterranean diet-like medical nutrition guideline for individualized nutrition plan.

1. 熱量與飲食計畫以減重並維持健康體位
2. 均衡健康飲食、地中海飲食及得舒飲食等健康飲食之內涵
3. 心血管代謝疾病相關危險因子之飲食調整重點

## 2024 TSOC 預防系列研討會

Fatty acid/fish oil supplements, red yeast, and antiplatelet therapy

### 演講摘要

心血管疾病一直是全球主要健康挑戰，而純 EPA 魚油作為心血管疾病的實證治療新趨勢受到越來越多的關注。純 EPA 魚油在預防和治療心血管疾病方面的潛在價值近年有較新的研究成果。首先，純 EPA 魚油是一種特殊的 Omega-3 脂肪酸，已被證明對降低甘油三酯水平和抑制發炎過程具有獨特的效果。近期的研究，包括 Jelis 與 Reduce-It 等高劑量純 EPA 大型臨床試驗顯示，純 EPA 魚油可能在降低心血管風險、改善膽固醇水平、穩定斑塊和降低心臟事件風險方面具有顯著潛力。反之，DHA 在血脂與心血管保護的角色越來越弱。臨床使用 statin 藥物搭配 EPA 的概念正在改變心血管疾病的治療方法，為醫療界和患者提供了新的希望。然而，仍然需要更多研究來確定純 EPA 魚油的最佳用途、適當劑量和潛在風險。此外，純 EPA 魚油的可持續性和負擔能力也需要進一步關注。

紅鞠是一種傳統的中國營養補充品，經由紫紅曲霉的酵母對米進行發酵製成。紅鞠的降脂效果機轉透過紅曲霉素 K，這是一種對 HMG-CoA 還原酶的弱可逆抑制劑。紅鞠對血漿低密度脂蛋白膽固醇 (LDL-C) 水平的平均降低幅度在 6 至 8 週內可達 15% 至 25%。基於實證醫學證據研究，2023 年 TSOC CCS 指南建議在無背景 statin 藥物治療的情況下，可以考慮使用紅鞠進行動脈粥樣硬化心血管疾病 (ASCVD) 的二次預防 (COR IIb, LOE B)。然而，在 ASCVD 的初級預防方面，紅鞠仍然缺乏足夠的臨床證據，僅建議在對 statin 藥物不耐受或不願意使用 statin 藥物的患者中使用，也不建議與 statin 藥物同時使用。

至於目前在初級預防中抗血小板藥物的角色，對於那些存在高 ASCVD 風險且出血風險低的成年人，口服阿司匹林每天 75-100 毫克可能可用於原發性預防 ASCVD (COR IIb, LOE A)。但不建議對任何年齡段的成年人進行原發性預防動脈粥樣硬化心血管疾病 (ASCVD) 的常規抗血小板治療 (COR III, LOE A)。另外根據冠狀動脈鈣化指數，不建議對 CAC 得分=0 的成年人進行原發性預防 ASCVD 的抗血小板治療 (COR III, LOE B)。但對於 CAC 得分為 100-399 Agatston 單位且出血風險低的成年人，每天口服阿司匹林 75-100 毫克可能被考慮用於原發性預防 ASCVD (COR IIb, LOE B)。再者，對於 CAC 得分  $\geq 400$  Agatston 單位或  $\geq$  第 75 百分位且出血風險低的成年人，每天口服阿司匹林 75-100 毫克可能被指示用於原發性預防 ASCVD (COR IIb, LOE B)。