

Convergence of Care – A New Strategy to Reduce Cardiovascular Events (CME Agenda)

時間: 114.06.15 (星期日)AM 9:30-12:00

地點: 張榮發基金會國際會議中心 6F 603 會議室 (台北市中正區中山南路 11 號)

9:30 –9:35 (5 min)	Opening		李貽恒 理事長
9:35 –10:05 (30 min)	The Heart's Compass –Biomarkers to Guide CV Risk Reduction	謝敏雄 醫師	謝宜璋 醫師
10:05 –10:35 (30 min)	The Comorbidity Continuum – The CKD and T2D Path to CV Events	吳卓錯 醫師	吳彥雯 醫師
10:35 –10:55 (20 min)	Post-lecture poll and Q&A	謝敏雄 醫師 吳卓錯 醫師 李貽恒 醫師 謝宜璋 醫師 吳彥雯 醫師	
10:55 –11:05 (10 min)	Break		
11:05 –11:45 (40 min)	The Heart Knight Rises – A New Pillar in HFpEF/HFmrEF	張瑋婷 醫師	林宗憲 醫師
11:45 –11:55 (10 min)	Post-lecture poll and Q&A	張瑋婷 醫師 林宗憲 醫師	
11:55 –12:00 (5 min)	Closing		林宗憲 醫師

The Heart's Compass - Biomarkers to Guide CV Risk Reduction

Ming-Hsiung Hsieh. Chief of Cardiovascular Center, Taipei Medical University Wan Fang hospital

Cardiovascular diseases (CVD), such as heart failure (HF), pose a significant global disease burden, affecting over 60 million individuals worldwide. In recent years, the treatment concept of cardiovascular-kidney-metabolic (CKM) has gained traction, emphasizing the importance of prevention in avoiding the onset of CVD, particularly in patients with type 2 diabetes (T2D) or chronic kidney disease (CKD). To better recognize and promptly mitigate exposure to higher risks, effective biomarkers for risk assessment are essential. According to the 2023 AHA CKM Presidential Advisory screening recommendations, monitoring CKM risk can be enhanced through kidney-related biomarkers such as urinary albumin-to-creatinine ratio (UACR), as well as common CV biomarkers like NT-proBNP, high-sensitivity cardiac troponins, and high-sensitivity C-reactive protein (hs-CRP). In assessing the risk of HF, all four aforementioned biomarkers demonstrate strong correlations with risk. Notably, UACR and NT-proBNP show consistent associations with both HFrEF and HFpEF.

The non-steroidal mineralocorticoid receptor antagonist (finerenone) has exhibited significant effects on these two biomarkers in completed phase III trials (FIDELIO-DKD, FIGARO-DKD, and FINEARTS-HF). For example, in the FINEARTS-HF population with HFmrEF/HFpEF, finerenone significantly reduced NT-proBNP levels by 12.1% at three months and continued to decline to 12.5% (both $p < 0.001$) by twelve months compared to placebo. From the CKM perspective, significant reductions of 18% and 24% in NT-proBNP were observed at four months in the T2D and CKD populations of the FIDELITY-BNP and FIGARO-BM studies, respectively. Furthermore, in the FIDELITY trial, finerenone achieved a notable 32% reduction in UACR among T2D and CKD patients after four months of treatment.

In contrast to NT-proBNP, currently, the Taiwan government allows for up to four UACR screenings per year for patients enrolled in the Diabetes and Early Chronic Kidney Disease Integrated Care Program, which greatly supports the treatment and management of CKM diseases. Therefore, UACR should be regarded as a critical biomarker in clinical practice.

簡歷

一、基本資料:

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中華民國心律醫學會第三屆及第四屆監事, 第七屆監事
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北美電刺激及電氣生理學會, NASPE (2000~2006)
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著作

[1] 雜誌論文共 160 篇

[2] 研討會論文共 95 篇

[3] 專書共三本之三章節

The Heart Knight Rises – A New Pillar in HFpEF/HFmrEF

張瑋婷

Treating patients with HFmrEF/HFpEF presents a clinical dilemma due to the heterogeneity of the patient population and limited evidence-based therapies. Unlike HFrEF, where treatment guidelines are well-established, HFmrEF/HFpEF lacks universally effective interventions. Comorbidities such as atrial fibrillation, diabetes, and chronic kidney disease further complicate management. Symptom burden and hospitalization risks remain high, yet response to conventional therapies is often variable. The need for tailored treatment strategies is critical, highlighting the importance of emerging therapies like finerenone, which show promise in improving cardiovascular outcomes and renal function across diverse patient subgroups. The FINEARTS-HF and FINE-HEART sub-analyses provide compelling evidence for the efficacy and safety of finerenone in patients with HFmrEF/HFpEF. Finerenone treatment significantly lowered the risk of the primary outcome—comprising cardiovascular (CV) death and heart failure (HF) events—by 16% compared to placebo, with consistent benefits across all prespecified subgroups. Notably, these positive outcomes were independent of baseline atrial fibrillation (AF) status or AF type, emphasizing finerenone's broad applicability. Also, finerenone's therapeutic effect extended across sex, age, and SGLT-2 inhibitor use, reinforcing its role in comprehensive HF management. Additionally, the drug demonstrated renal benefits by reducing albuminuria and delaying the onset of micro- and macroalbuminuria. In this talk, I will review the latest information regarding the treatment for patients with HFmrEF/HFpEF.

Curriculum Vitae

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- 2013/9 –2014/8** Brigham and Women's Hospital, Harvard University, MA, USA
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- 2019/8 – 2023/06** Graduate Institute of Clinical Medicine, National Cheng Kung University, Taiwan
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- 2023/07** Visiting Scholar with certificate of Precisional Medicine in St. Edmund Hall, Oxford
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Professional Experience

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- 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**)
11. **Chang WT**, Lee WH, Lee WT, Chen PS, Su YR, Liu PY, Liu YW, Tsai WC. Left ventricular global longitudinal strain is independently associated with mortality in septic shock patients. *Intensive Care Med*. 2015 Oct;41(10):1791-9 (**IF:7.214**)
12. **Chang WT**, Tsai WC, Wu CH, Lee YW, Tai YL, Li YH, Tsai LM, Chen JH, Liu PY. Fetuin-A as a predictor of sarcopenic left ventricular dysfunction. *Sci Rep*. 2015 Jul 10;5:12078. (**IF:5.578**)

13. **Chang WT**, Fisch S, Chen M, Qiu Y, Cheng S, Liao R. Ultrasound based assessment of coronary artery flow and coronary flow reserve using the pressure overload model in mice. *J Vis Exp*. 2015 Apr 13;(98):e52598. **(IF:1.325)**
14. **Chang WT**, Chow NH, Tsai YS, Lin CC. Acute ruptured mycotic aneurysm mimicking myocardial tumor with ST elevation myocardial infarction. *Intensive Care Med*. 2015 Oct;41(10):1834-5 **(IF:7.214)**
15. **Chang WT**, Chen PS, Chen PW, Tsai LM, Liu PY. Fetuin A adds prognostic value for cardiovascular outcomes among patients with coronary artery disease with moderate calcification. *Int J Cardiol*. 2015 Apr 15;185:159-61. **(IF:4.036)**
16. **Chang WT**, Liu YW, Liu PY, Chen JY, Lee CH, Li YH, Tsai LM, Tsai WC. Association of Decreased Right Ventricular Strain with Worse Survival in Non-Acute Coronary Syndrome Angina. *J Am Soc Echocardiogr*. 2016 Apr;29(4):350-358.e4. **(IF:4.056)**
17. **Chang WT**, Shi JY, Feng YH, Chian CY, Chen ZC. The early predictive value of right ventricular strain in Epirubicin induced cardiotoxicity in patients with breast cancer. *Acta Cardiol Sin* 2016 Sep;32(5):550-559 **(IF:1.67)**
18. **Chang WT**, Cheng JT, Chen ZC. Telmisartan improves cardiac fibrosis in diabetes through peroxisome proliferator activated receptor δ (PPAR δ): from bedside to bench. *Cardiovasc Diabetol*. 2016 Aug 12;15(1):113 **(IF: 4.534)**
19. **Chang WT**, Weng SF, Hsu CH, Shih JU, Wang JJ, Wu CY, Chen ZC. The prognostic factors in patients with pulmonary hypertension – a nationwide cohort study. *J Am Heart Assoc* 2016 Aug 29;5(9) **(IF: 5.117)**
20. Kristopher A. Sarosiek, Cameron Fraser, Nathiya Muthalagu, Patrick D. Bhola, **Weiting Chang**, Samuel K. McBrayer, et al. Developmental regulation of mitochondrial apoptosis by c-Myc governs age- and tissue-specific sensitivity to cancer therapy. *Cancer Cell* 2017 Jan 9;31(1):142-156. **(IF: 23.214)**
21. **Chang WT**, Chen JS, Tsai MH, Tsai WC, Juang JN, Liu PY. Interplay of Aging and Hypertension in Cardiac Remodeling: A Mathematical Geometric Model. *PLoS One*. 2016 Dec 15;11(12):e0168071 **(IF: 3.534)**
22. **Chang WT**, Wu CH, Hsu LW, Chen PW, Yu JR, Chang JS, Tsai WC, Liu PY. Serum vitamin D, intact parathyroid hormone, and Fetuin A concentrations were associated with geriatric sarcopenia and cardiac hypertrophy. *Sci Rep*. 2017 Jan 23;7:40996 **(IF: 5.578)** (IF: 4.997 Rank: 19/74=0.26 引用: 19 次)
23. Lin ZZ, **Chang WT**, Chiang CY, Chen ZC, Ku PM. IVUS-Guided Implantation of Bioresorbable Vascular Scaffolds for Very Late Paclitaxel Stent Thrombosis. *Acta Cardiol Sin*. 2017 Jan;33(1):92-95 **(IF:1.67)**
24. **Chang WT**, Liu YW, Liu PY, Hsu CH, Tsai WC. The association between right ventricular free wall strain and exercise capacity for health check-up subjects. *PLoS One*. 2017 Mar 13;12(3):e0173307 **(IF: 3.534)**
25. Tan JWC, Lam CSP, Kasim SS, Aw TC, Abanilla JM, **Chang WT**, Dang VP, Iboleon-Dy M, Mumpuni SS, Phommintikul A, Ta MC, Topipat P, Yiu KH, Cullen L. Asia-Pacific consensus statement on the optimal use of high-sensitivity troponin assays in acute coronary syndromes diagnosis: focus on hs-TnI. *Heart Asia*. 2017 Apr 7;9(1):81-87. **(IF: 0.23)**

26. **Chang WT**, Chang CL, Ho CH, Hing CS, Wang JJ, Chen ZC. Long-term effects of unprovoked venous thromboembolism on mortality and major cardiovascular events. *J Am Heart Assoc.* 2017 May 3;6(5) (IF: 5.117) (IF: 6.107 Rank: 42/143=0.29)
27. **Chang WT**, Wu SN. Activation of voltage-gated sodium current and inhibition of erg-mediated potassium current caused by telmisartan, an antagonist of angiotensin II type-1 receptor, in HL-1 atrial cardiomyocytes. *Clin Exp Pharmacol Physiol.* 2018 Aug;45(8):797-807. (IF: 2.37) (IF: 2.963 Rank: 181/279=0.65 引用: 14 次)
28. Cheng KC, **Chang WT**, Li Y, Cheng YZ, Cheng JT, Chen ZC. GW0742 activates peroxisome proliferator-activated receptor δ to reduce free radicals and alleviate cardiac hypertrophy induced by hyperglycemia in cultured H9c2 cells. *J Cell Biochem.* 2018 Nov;119(11):9532-9542 (IF: 3.08) (IF: 4.481 Rank: 133/322=0.41 引用: 9 次)
29. **Chang WT**, Hsu CH, ZC Chen. MiR-21 is associated with the severity of right ventricular dysfunction in patients with hypoxia induced pulmonary hypertension". *Acta Cardiol Sin.* 2018;34:511-517 (IF:1.67) (IF: 1.738 Rank: 125/143=0.87 引用: 20 次)
30. Chiang CY, **Chang WT**, Ho CH, Hong CS, Shih JY, Wu WS, Chen ZC, Chou MT. Radial artery occlusion with a kaolin-filled pad after transradial cardiac catheterization. *Medicine (Baltimore).* 2018 Nov;97(46):e13134. (IF:2.02) (IF: 1.817 Rank: 123/172=0.72 引用: 1 次)
31. Cheng KC, Li Y, **Chang WT**, Kuo FY, Chen ZC, Cheng JT. Telmisartan is effective to ameliorate metabolic syndrome in rat model - a preclinical report. *Diabetes Metab Syndr Obes.* 2018 Dec 7;11:901-911. (IF:2.842) (IF: 3.249 Rank: 100/146=0.68 引用: 5 次)
32. Cheng KC, Li Y, **Chang WT**, Chen ZC, Cheng JT, Tsai CC. Ubiquitin-protein ligase E3a (UBE3A) as a new biomarker of cardiac hypertrophy in cell models. *J Food Drug Anal.* 2019 Jan;27(1):355-364. (IF:4.176) (IF: 6.157 Rank: 27/144=0.19 引用: 11 次)
33. Huang PS, Chen ZC, Tang KT, **Chang WT (corresponding author)**. Evaluation of Radiation Exposure on Physicians During Angioplasty for Hemodialysis Access Dysfunction. *Acta Cardiol Sin.* 2019 Jan;35(1):27-31(IF:2.02) (IF: 1.800 Rank: 119/143=0.83 引用: 5 次)
34. Cheng KC, **Chang WT**, Kuo FY, Chen ZC, Li Y, Cheng JT. TGR5 activation ameliorates hyperglycemia-induced cardiac hypertrophy in H9c2 cells. *Sci Rep.* 2019 Mar 6;9(1):3633. (IF:3.998) (IF: 4.997 Rank: 19/74 =0.26 引用: 27 次)
35. Lu TL, **Chang WT**, Chan CH, Wu SN. Evidence for effective multiple K⁺-current inhibitions by tolvaptan, a non-peptide antagonist of vasopressin V2 receptor. *Front Pharmacol.* 2019 Feb 18;10:76(IF:4.4) (IF: 5.988 Rank: 50/279=0.18 引用: 14 次)
36. Huang WC, Hsu CH, Sung SH, Ho WJ, Chu CY, Chang CP, Chiu YW, Wu CH, **Chang WT**, et al. 2018 TSOE guideline focused update on diagnosis and treatment of pulmonary arterial hypertension. *J Formos Med Assoc.* 2019. (IF:3.008) (IF: 3.871 Rank: 56/329=0.17 引用: 27 次)
37. Shih JY, Chen ZC, Chang HY, Liu YW, Ho CH, **Chang WT(corresponding author)**. Risks of age and sex on clinical outcomes post myocardial infarction. *Int J Cardiol Heart Vasc.* 2019 Mar 28;23:100350. (IF:1.78) (IF: 0.60 Rank: 85/208=0.41 引用: 27 次)

38. Chang HY, **Chang WT**, Liu YW. Application of transthoracic echocardiography in patients receiving intermediate- or high-risk noncardiac surgery. *PLoS One*. 2019 Apr 25;14(4):e0215854. (IF:2.74) (IF: 3.752 Rank: 29/74=0.38 引用: 13 次)
39. **Chang WT**, Ho CH, Chang CL, Chen ZC. Impact of warfarin on cardiac and cerebrovascular events following bioprosthetic aortic valve replacement— a nationwide cohort study. *J Thorac Cardiovasc Surg*. 2019 May 18 (IF:4.88) (IF: 6.439 Rank: 39/143=0.27 引用: 1 次)
40. **Chang WT**, et al. Cardio-Oncology section: 2019 Focused Update of the Guidelines of the Taiwan Society of Cardiology for the Diagnosis and Treatment of Heart Failure. *Acta Cardiol Sin* 2019;35:244283(IF:1.676) (IF: 1.738 Rank: 125/143=0.87 引用: 48 次)
41. Li YH, Chen JW, Lin TH, Wang YC, Wu CC, Yeh HI, Huang CC, Chang KC, Wu CK, Chen PW, Huang CW, Chen ZC, **Chang WT**, et al. A performance guide for major risk factors control in patients with atherosclerotic cardiovascular disease in Taiwan. *J Formos Med Assoc*. 2019 May 18(IF:3.008) (IF: 3.871 Rank: 56/329=0.17 引用: 11 次)
42. Chen ZC, Wu NC, Chang CL, Ho CH, Liao CT, Chiang CY, **Chang WT** (Corresponding author). Risk of ischemic stroke in thyrotoxic atrial fibrillation. *Clin Endocrinol (Oxf)*. 2019 Jul 13. (IF:5.605) (IF: 3.523 Rank: 93/146=0.64 引用: 5 次)
43. **Chang WT**, Gao ZH, Lo YC, Wu SN. Evidence for Effective Inhibitory Actions on Hyperpolarization-Activated Cation Current Caused by Ganoderma Triterpenoids, the Main Active Constituents of Ganoderma Spores. *Molecules*. 2019 Nov 22;24(23):4256(IF:3.267) (IF: 4.927 Rank: 114/297=0.38 引用: 8 次)
44. Hsu CH, Lin CC, Li WT, Chang HY, **Chang WT** (Corresponding author). Right ventricular dysfunction is associated with the development of chronic thromboembolic pulmonary hypertension but not with mortality post-acute pulmonary embolism. *Medicine (Baltimore)*. 2019 Nov;98(48):e17953(IF:2.133) (IF: 1.817 Rank: 123/172=0.72 引用: 9 次)
45. **Chang WT**, Lo YC, Gao ZH, Wu SN. Evidence for the Capability of Roxadustat (FG-4592), an Oral HIF Prolyl-Hydroxylase Inhibitor, to Perturb Membrane Ionic Currents: An Unidentified yet Important Action. *Int J Mol Sci*. 2019 Nov 29;20(23):6027(IF:4.556) (IF: 6.208 Rank: 69/297 =0.23 引用: 8 次)
46. Lee YL, Lim SW, Zheng HX, **Chang WT**, Nyam TE, Chio CC, Kuo JR, Wang CC. The Short-Term Effects of Isolated Traumatic Brain Injury on the Heart in Experimental Healthy Rats. *Neurocrit Care*. 2020 Oct;33(2):438-448(IF:3.49) (IF: 3.532 Rank: 105/212=0.50 引用: 6 次)
47. **Chang WT**, ZH Gao, SW Li, PY Liu, YC Lo, SN Wu. Characterization in Dual Activation by Oxaliplatin, a Platinum-Based Chemotherapeutic Agent of Hyperpolarization-Activated Cation and Electroporation-Induced Currents. *Int J Mol Sci*. 2020 (IF:4.556) (IF: 6.208 Rank: 69/297 =0.23 引用: 10 次)
48. **Chang WT**, et al. Layer-specific distribution of myocardial deformation from anthracycline-induced cardiotoxicity in patients with breast cancer. *Int J Cardiol*. 2020 Jul 15;311:64-70 (IF:4.03) (IF: 4.039 Rank: 61/143=0.43 引用: 15 次)
49. **Chang WT**, Liu PY, Lee K, Feng YH, Wu SN. Differential Inhibitory Actions of Multitargeted Tyrosine Kinase Inhibitors on Different Ionic Current Types in Cardiomyocytes. *Int J Mol Sci*. 2020 Feb 29;21(5) (IF:4.556) (IF: 6.208 Rank: 69/297 =0.23 引用: 5 次)

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