

References

- [1] Hausenloy DJ, Yellon DM. Reperfusion injury salvage kinase signalling: taking a RISK for cardioprotection. *Heart Fail Rev.* 2007;**12**(3-4):217-34.
- [2] Entman ML, Smith CW. Postreperfusion inflammation: a model for reaction to injury in cardiovascular disease. *Cardiovas Res.* 1994;**28**(9):1301-11.
- [3] Wu ZK, Laurikka J, Saraste A, Kyto V, Pehkonen EJ, Savunen T, et al. Cardiomyocyte apoptosis and ischemic preconditioning in open heart operations. *Ann Thorac Surg.* 2003;**76**(2):528-34.
- [4] Ishii H, Ichimiya S, Kanashiro M, Amano T, Imai K, Murohara T, et al. Impact of a single intravenous administration of nicorandil before reperfusion in patients with ST-segment-elevation myocardial infarction. *Circulation.* 2005;**112**(9):1284-8.
- [5] Vanoli E, De Ferrari GM, Stramba-Badiale M, Hull SS, Jr., Foreman RD, Schwartz PJ. Vagal stimulation and prevention of sudden death in conscious dogs with a healed myocardial infarction. *Cir Res.* 1991;**68**(5):1471-81.
- [6] Engelstein ED. Prevention and management of chronic heart failure with electrical therapy. *Am J Cardiol.* 2003;**91**(9a):62f-73f.
- [7] Li M, Zheng C, Sato T, Kawada T, Sugimachi M, Sunagawa K. Vagal nerve stimulation markedly improves long-term survival after chronic heart failure in rats. *Circulation.* 2004;**109**(1):120-4.
- [8] Schwartz PJ, De Ferrari GM, Sanzo A, Landolina M, Rordorf R, Raineri C, et al. Long term vagal stimulation in patients with advanced heart failure: first experience in man. *Eur J Heart Fail.* 2008;**10**(9):884-91.
- [9] De Ferrari GM, Crijns HJ, Borggrefe M, Milasinovic G, Smid J, Zabel M, et al. Chronic vagus nerve stimulation: a new and promising therapeutic approach for chronic heart failure. *Eur Heart J.* 2011;**32**(7):847-55.

- [10] Hauptman PJ, Schwartz PJ, Gold MR, Borggrefe M, Van Veldhuisen DJ, Starling RC, et al. Rationale and study design of the increase of vagal tone in heart failure study: INOVATE-HF. *Am Heart J*. 2012;**163**(6):954-62.e1.
- [11] Calvillo L, Vanoli E, Andreoli E, Besana A, Omodeo E, Gneccchi M, et al. Vagal stimulation, through its nicotinic action, limits infarct size and the inflammatory response to myocardial ischemia and reperfusion. *J Cardiovasc Pharmacol*. 2011;**58**(5):500-7.
- [12] Zhao M, Sun L, Liu JJ, Wang H, Miao Y, Zang WJ. Vagal nerve modulation: a promising new therapeutic approach for cardiovascular diseases. *Clin Exp Pharmacol Physiol*. 2012;**39**(8):701-5.
- [13] Shinlapawittayatorn K, Chinda K, Palee S, Surinkaew S, Thunsiri K, Weerateerangkul P, et al. Low-amplitude, left vagus nerve stimulation significantly attenuates ventricular dysfunction and infarct size through prevention of mitochondrial dysfunction during acute ischemia-reperfusion injury. *Heart Rhythm*. 2013;**10**(11):1700-7.
- [14] Shinlapawittayatorn K, Chinda K, Palee S, Surinkaew S, Kumfu S, Kumphune S, et al. Vagus nerve stimulation initiated late during ischemia, but not reperfusion, exerts cardioprotection via amelioration of cardiac mitochondrial dysfunction. *Heart Rhythm*. 2014;**11**(12):2278-87.
- [15] Kakinuma Y, Ando M, Kuwabara M, Katare RG, Okudela K, Kobayashi M, et al. Acetylcholine from vagal stimulation protects cardiomyocytes against ischemia and hypoxia involving additive non-hypoxic induction of HIF-1 α . *FEBS Lett*. 2005;**579**(10):2111-8.
- [16] Katare RG, Ando M, Kakinuma Y, Arikawa M, Handa T, Yamasaki F, et al. Vagal nerve stimulation prevents reperfusion injury through inhibition of opening of mitochondrial permeability transition pore independent of the bradycardiac effect. *J Thorac Cardiovasc Surg*. 2009;**137**(1):223-31.
- [17] Katare RG, Ando M, Kakinuma Y, Arikawa M, Yamasaki F, Sato T. Differential regulation of TNF receptors by vagal nerve stimulation protects heart against acute ischemic injury. *J Mol Cell Cardiol*. 2010;**49**(2):234-44.

- [18] Kong SS, Liu JJ, Yu XJ, Lu Y, Zang WJ. Protection against ischemia-induced oxidative stress conferred by vagal stimulation in the rat heart: involvement of the AMPK-PKC pathway. *Int J Mol Sci.* 2012;**13**(11):14311-25.
- [19] Yamakawa K, Rajendran PS, Takamiya T, Yagishita D, So EL, Mahajan A, et al. Vagal nerve stimulation activates vagal afferent fibers that reduce cardiac efferent parasympathetic effects. *Am J Physiol Heart Circ Physiol.* 2015;**309**(9):H1579-90.
- [20] Hausenloy DJ, Yellon DM. Myocardial ischemia-reperfusion injury: a neglected therapeutic target. *J Clin Invest.* 2013;**123**(1):92-100.
- [21] Yellon DM, Hausenloy DJ. Myocardial Reperfusion Injury. *N Engl J Med.* 2007;**357**(11):1121-35.
- [22] Hausenloy DJ, Yellon DM. The mitochondrial permeability transition pore: its fundamental role in mediating cell death during ischaemia and reperfusion. *J Mol Cell Cardiol.* 2003;**35**(4):339-41.
- [23] McAlindon E, Bucciarelli-Ducci C, Suleiman MS, Baumbach A. Infarct size reduction in acute myocardial infarction. *Heart.* 2015;**101**(2):155-60.
- [24] McLeod CJ, Pagel I, Sack MN. The mitochondrial biogenesis regulatory program in cardiac adaptation to ischemia--a putative target for therapeutic intervention. *Trends Cardiovasc. Med.* 2005;**15**(3):118-23.
- [25] Di Lisa F, Bernardi P. Mitochondria and ischemia-reperfusion injury of the heart: fixing a hole. *Cardiovas Res.* 2006;**70**(2):191-9.
- [26] Brown DA, O'Rourke B. Cardiac mitochondria and arrhythmias. *Cardiovas Res.* 2010;**88**(2):241-9.
- [27] Ray PD, Huang BW, Tsuji Y. Reactive oxygen species (ROS) homeostasis and redox regulation in cellular signaling. *Cell Signal.* 2012;**24**(5):981-90.
- [28] O'Rourke B, Cortassa S, Akar F, Aon M. Mitochondrial ion channels in cardiac function and dysfunction. *Novartis Found. Symp.* 2007;**287**:140-56.

- [29] Ahuja P, Zhao P, Angelis E, Ruan H, Korge P, Olson A, et al. Myc controls transcriptional regulation of cardiac metabolism and mitochondrial biogenesis in response to pathological stress in mice. *J Clin Invest.* 2010;**120**(5):1494-505.
- [30] Chang CR, Blackstone C. Dynamic regulation of mitochondrial fission through modification of the dynamin-related protein Drp1. *Ann N Y Acad Sci.* 2010;**1201**:34-9.
- [31] Zorzano A, Liesa M, Sebastian D, Segales J, Palacin M. Mitochondrial fusion proteins: dual regulators of morphology and metabolism. *Semin Cell Dev Biol.* 2010;**21**(6):566-74.
- [32] Chan DC. Fusion and fission: interlinked processes critical for mitochondrial health. *Annu Rev Genet.* 2012;**46**:265-87.
- [33] Maneechote C, Palee S, Chattipakorn SC, Chattipakorn N. Roles of mitochondrial dynamics modulators in cardiac ischaemia/reperfusion injury. *J Cell Mol Med.* 2017;**21**(11):2643-53.
- [34] Chen H, Chan DC. Physiological functions of mitochondrial fusion. *Ann N Y Acad Sci.* 2010;**1201**:21-5.
- [35] Finck BN, Kelly DP. Peroxisome Proliferator-Activated Receptor γ Coactivator-1 (PGC-1) Regulatory Cascade in Cardiac Physiology and Disease. *Circulation.* 2007;**115**(19):2540-8.
- [36] Vinten-Johansen J. Involvement of neutrophils in the pathogenesis of lethal myocardial reperfusion injury. *Cardiovas Res.* 2004;**61**(3):481-97.
- [37] Heusch G. Cardioprotection: chances and challenges of its translation to the clinic. *Lancet.* 2013;**381**(9861):166-75.
- [38] Heusch G. Treatment of Myocardial Ischemia/Reperfusion Injury by Ischemic and Pharmacological Postconditioning. *Compr Physiol.* 2015;**5**(3):1123-45.

- [39] Ibanez B, Heusch G, Ovize M, Van de Werf F. Evolving therapies for myocardial ischemia/reperfusion injury. *J Am Coll Cardiol.* 2015;**65**(14):1454-71.
- [40] Heusch G. Molecular basis of cardioprotection: signal transduction in ischemic pre-, post-, and remote conditioning. *Circ. Res.* 2015;**116**(4):674-99.
- [41] Heusch G, Bøtker HE, Przyklenk K, Redington A, Yellon D. Remote Ischemic Conditioning. *J Am Coll Cardiol.* 2015;**65**(2):177-95.
- [42] Gordan R, Gwathmey JK, Xie L-H. Autonomic and endocrine control of cardiovascular function. *World J Cardiol.* 2015;**7**(4):204-14.
- [43] Barrett EK, Boitano S, Barman MS, Brooks LH. *Ganong's Review of Medical Physiology.* 33rd, editor. The McGraw-Hill Companies 2010, pp. 264, 978-0-07-160568-7.
- [44] Yuan H, Silberstein SD. Vagus Nerve and Vagus Nerve Stimulation, a Comprehensive Review: Part I. *Headache.* 2016;**56**(1):71-8.
- [45] Hainsworth R. Reflexes from the heart. *Physiol Rev.* 1991;**71**(3):617-58.
- [46] Pauza DH, Skripka V, Pauziene N, Stropus R. Morphology, distribution, and variability of the epicardiac neural ganglionated subplexuses in the human heart. *Anat Rec.* 2000;**259**(4):353-82.
- [47] Aviado DM, Guevara Aviado D. The Bezold-Jarisch reflex. A historical perspective of cardiopulmonary reflexes. *Ann N Y Acad Sci.* 2001;**940**:48-58.
- [48] Pauza DH, Skripka V, Pauziene N. Morphology of the intrinsic cardiac nervous system in the dog: a whole-mount study employing histochemical staining with acetylcholinesterase. *Cells Tissues Organs.* 2002;**172**(4):297-320.
- [49] Levy MN. Sympathetic-parasympathetic interactions in the heart. *Circ Res.* 1971;**29**(5):437-45.

- [50] Schlaich MP, Lambert E, Kaye DM, Krozowski Z, Campbell DJ, Lambert G, et al. Sympathetic augmentation in hypertension: role of nerve firing, norepinephrine reuptake, and Angiotensin neuromodulation. *Hypertension*. 2004;**43**(2):169-75.
- [51] Heusch G, Deussen A, Thamer V. Cardiac sympathetic nerve activity and progressive vasoconstriction distal to coronary stenoses: feed-back aggravation of myocardial ischemia. *J. Auton. Nerv. Syst.*. 1985;**13**(4):311-26.
- [52] Mortara A, Specchia G, La Rovere MT, Bigger JT, Jr., Marcus FI, Camm JA, et al. Patency of infarct-related artery. Effect of restoration of anterograde flow on vagal reflexes. ATRAMI (Automatic Tone and Reflexes After Myocardial Infarction) Investigators. *Circulation*. 1996;**93**(6):1114-22.
- [53] Schwartz PJ, Vanoli E, Stramba-Badiale M, De Ferrari GM, Billman GE, Foreman RD. Autonomic mechanisms and sudden death. New insights from analysis of baroreceptor reflexes in conscious dogs with and without a myocardial infarction. *Circulation*. 1988;**78**(4):969-79.
- [54] La Rovere MT, Pinna GD, Hohnloser SH, Marcus FI, Mortara A, Nohara R, et al. Baroreflex sensitivity and heart rate variability in the identification of patients at risk for life-threatening arrhythmias: implications for clinical trials. *Circulation*. 2001;**103**(16):2072-7.
- [55] De Ferrari GM, Sanzo A, Bertoletti A, Specchia G, Vanoli E, Schwartz PJ. Baroreflex sensitivity predicts long-term cardiovascular mortality after myocardial infarction even in patients with preserved left ventricular function. *J Am Coll Cardiol*. 2007;**50**(24):2285-90.
- [56] Schwartz PJ, De Ferrari GM. Sympathetic-parasympathetic interaction in health and disease: abnormalities and relevance in heart failure. *Heart Fail Rev*. 2011;**16**(2):101-7.

- [57] Waxman MB, Sharma AD, Asta J, Cameron DA, Wald RW. The protective effect of vagus nerve stimulation on catecholamine-halothane-induced ventricular fibrillation in dogs. *Can J Physiol Pharmacol*. 1989;**67**(7):801-9.
- [58] Kamibayashi T, Hayashi Y, Mammoto T, Yamatodani A, Sumikawa K, Yoshiya I. Role of the vagus nerve in the antidysrhythmic effect of dexmedetomidine on halothane/epinephrine dysrhythmias in dogs. *Anesthesiology*. 1995;**83**(5):992-9.
- [59] Chiou CW, Eble JN, Zipes DP. Efferent vagal innervation of the canine atria and sinus and atrioventricular nodes. The third fat pad. *Circulation*. 1997;**95**(11):2573-84.
- [60] Takahashi N, Ito M, Iwao T, Ohie T, Yonemochi H, Nakagawa M, et al. Vagal modulation of ventricular tachyarrhythmias induced by left ansae subclaviae stimulation in rabbits. *Jpn Heart J*. 1998;**39**(4):503-11.
- [61] Schauerte P, Scherlag BJ, Pitha J, Scherlag MA, Reynolds D, Lazzara R, et al. Catheter ablation of cardiac autonomic nerves for prevention of vagal atrial fibrillation. *Circulation*. 2000;**102**(22):2774-80.
- [62] Lemola K, Chartier D, Yeh YH, Dubuc M, Cartier R, Armour A, et al. Pulmonary vein region ablation in experimental vagal atrial fibrillation: role of pulmonary veins versus autonomic ganglia. *Circulation*. 2008;**117**(4):470-7.
- [63] Shinlapawittayatorn K, Chattipakorn S, Chattipakorn N. Vagus Nerve Stimulation: A Promising Cardioprotective Strategy Against Ischemia-Reperfusion Injury. In: Press i, editor. *Coronary Artery Disease: Research and Practice* 2015.
- [64] Miller TD, Christian TF, Hopfenspirger MR, Hodge DO, Gersh BJ, Gibbons RJ. Infarct size after acute myocardial infarction measured by quantitative tomographic ^{99m}Tc sestamibi imaging predicts subsequent mortality. *Circulation*. 1995;**92**(3):334-41.

- [65] Hawkins HK, Entman ML, Zhu JY, Youker KA, Berens K, Doré M, et al. Acute inflammatory reaction after myocardial ischemic injury and reperfusion. Development and use of a neutrophil-specific antibody. *Am. J. Pathol.* 1996;**148**(6):1957-69.
- [66] Kong SS, Liu JJ, Hwang TC, Yu XJ, Lu Y, Zang WJ. Tumour necrosis factor-alpha and its receptors in the beneficial effects of vagal stimulation after myocardial infarction in rats. *Clin Exp Pharmacol Physiol.* 2011;**38**(5):300-6.
- [67] Wang Q, Li RP, Xue FS, Wang SY, Cui XL, Cheng Y, et al. Optimal intervention time of vagal stimulation attenuating myocardial ischemia/reperfusion injury in rats. *Inflamm Res.* 2014;**63**(12):987-99.
- [68] Uemura K, Zheng C, Li M, Kawada T, Sugimachi M. Early short-term vagal nerve stimulation attenuates cardiac remodeling after reperfused myocardial infarction. *J. Card. Fail.* 2010;**16**(8):689-99.
- [69] Buchholz B, Donato M, Perez V, Deutsch AC, Hocht C, Del Mauro JS, et al. Changes in the loading conditions induced by vagal stimulation modify the myocardial infarct size through sympathetic-parasympathetic interactions. *Pflugers Arch.* 2015;**467**(7):1509-22.
- [70] Zhang L, Lu Y, Sun J, Zhou X, Tang B. Subthreshold vagal stimulation suppresses ventricular arrhythmia and inflammatory response in a canine model of acute cardiac ischaemia and reperfusion. *Exp Physiol.* 2016;**101**(1):41-9.
- [71] Wu W, Lu Z. Loss of anti-arrhythmic effect of vagal nerve stimulation on ischemia-induced ventricular tachyarrhythmia in aged rats. *Tohoku J Exp Med.* 2011;**223**(1):27-33.
- [72] Zuanetti G, De Ferrari GM, Priori SG, Schwartz PJ. Protective effect of vagal stimulation on reperfusion arrhythmias in cats. *Circ Res.* 1987;**61**(3):429-35.

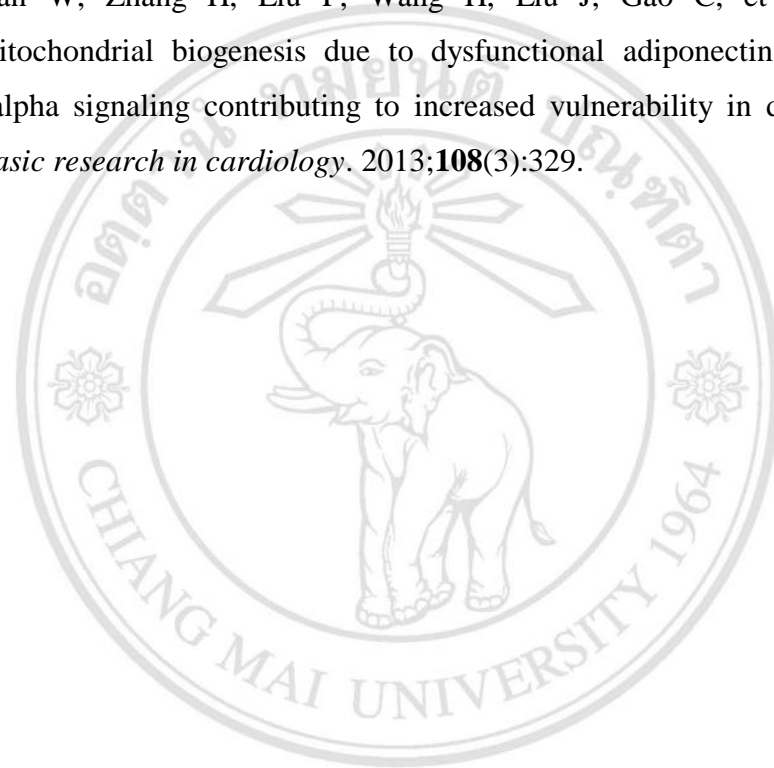
- [73] Ando M, Katare RG, Kakinuma Y, Zhang D, Yamasaki F, Muramoto K, et al. Efferent vagal nerve stimulation protects heart against ischemia-induced arrhythmias by preserving connexin43 protein. *Circulation*. 2005;**112**(2):164-70.
- [74] Wang Q, Cheng Y, Xue FS, Yuan YJ, Xiong J, Li RP, et al. Postconditioning with vagal stimulation attenuates local and systemic inflammatory responses to myocardial ischemia reperfusion injury in rats. *Inflamm Res*. 2012;**61**(11):1273-82.
- [75] Chen M, Zhou X, Yu L, Liu Q, Sheng X, Wang Z, et al. Low-Level Vagus Nerve Stimulation Attenuates Myocardial Ischemic Reperfusion Injury by Antioxidative Stress and Antiapoptosis Reactions in Canines. *J Cardiovasc Electrophysiol*. 2016;**27**(2):224-31.
- [76] Donato M, Buchholz B, Rodriguez M, Perez V, Inserte J, Garcia-Dorado D, et al. Role of the parasympathetic nervous system in cardioprotection by remote hindlimb ischaemic preconditioning. *Exp Physiol*. 2013;**98**(2):425-34.
- [77] Zhao M, He X, Bi XY, Yu XJ, Gil Wier W, Zang WJ. Vagal stimulation triggers peripheral vascular protection through the cholinergic anti-inflammatory pathway in a rat model of myocardial ischemia/reperfusion. *Basic Res Cardiol*. 2013;**108**(3):345.
- [78] Xue RQ, Sun L, Yu XJ, Li DL, Zang WJ. Vagal nerve stimulation improves mitochondrial dynamics via an M3 receptor/CaMKKbeta/AMPK pathway in isoproterenol-induced myocardial ischaemia. *J Cell Mol Med*. 2017;**21**(1):58-71.
- [79] Uitterdijk A, Yetgin T, te Lintel Hekkert M, Sneep S, Krabbendam-Peters I, van Beusekom HM, et al. Vagal nerve stimulation started just prior to reperfusion limits infarct size and no-reflow. *Basic Res Cardiol*. 2015;**110**(5):508.

- [80] Uemura K, Li M, Tsutsumi T, Yamazaki T, Kawada T, Kamiya A, et al. Efferent vagal nerve stimulation induces tissue inhibitor of metalloproteinase-1 in myocardial ischemia-reperfusion injury in rabbit. *Am J Physiol Heart Circ Physiol*. 2007;**293**(4):H2254-61.
- [81] Beaumont E, Southerland EM, Hardwick JC, Wright GL, Ryan S, Li Y, et al. Vagus nerve stimulation mitigates intrinsic cardiac neuronal and adverse myocyte remodeling postmyocardial infarction. *Am J Physiol Heart Circ Physiol*. 2015;**309**(7):H1198-206.
- [82] Zhang Y, Chen A, Song L, Li M, Luo Z, Zhang W, et al. Low-Level Vagus Nerve Stimulation Reverses Cardiac Dysfunction and Subcellular Calcium Handling in Rats With Post-Myocardial Infarction Heart Failure. *Int Heart J*. 2016;**57**(3):350-5.
- [83] Zamotrinsky A, Afanasiev S, Karpov RS, Cherniavsky A. Effects of electrostimulation of the vagus afferent endings in patients with coronary artery disease. *Coron Artery Dis*. 1997;**8**(8-9):551-7.
- [84] Premchand RK, Sharma K, Mittal S, Monteiro R, Dixit S, Libbus I, et al. Autonomic regulation therapy via left or right cervical vagus nerve stimulation in patients with chronic heart failure: results of the ANTHEM-HF trial. *J. Card. Fail.* 2014;**20**(11):808-16.
- [85] Zannad F, De Ferrari GM, Tuinenburg AE, Wright D, Brugada J, Butter C, et al. Chronic vagal stimulation for the treatment of low ejection fraction heart failure: results of the NEural Cardiac TherApy foR Heart Failure (NECTAR-HF) randomized controlled trial. *Eur. Heart J*. 2015;**36**(7):425-33.
- [86] Libbus I, Nearing BD, Amurthur B, KenKnight BH, Verrier RL. Autonomic regulation therapy suppresses quantitative T-wave alternans and improves baroreflex sensitivity in patients with heart failure enrolled in the ANTHEM-HF study. *Heart Rhythm*. 2016;**13**(3):721-8.

- [87] Yu L, Huang B, Po SS, Tan T, Wang M, Zhou L, et al. Low-Level Tragus Stimulation for the Treatment of Ischemia and Reperfusion Injury in Patients With ST-Segment Elevation Myocardial Infarction: A Proof-of-Concept Study. *JACC Cardiovasc Interv.* 2017;**10**(15):1511-20.
- [88] Dicarlo L, Libbus I, Amurthur B, Kenknight BH, Anand IS. Autonomic regulation therapy for the improvement of left ventricular function and heart failure symptoms: the ANTHEM-HF study. *J. Card. Fail.* 2013;**19**(9):655-60.
- [89] Clancy JA, Mary DA, Witte KK, Greenwood JP, Deuchars SA, Deuchars J. Non-invasive vagus nerve stimulation in healthy humans reduces sympathetic nerve activity. *Brain Stimul.* 2014;**7**(6):871-7.
- [90] Chinda K, Palee S, Surinkaew S, Phornphutkul M, Chattipakorn S, Chattipakorn N. Cardioprotective effect of dipeptidyl peptidase-4 inhibitor during ischemia-reperfusion injury. *Int J Cardiol.* 2013;**167**(2):451-7.
- [91] Lewis ME, Al-Khalidi AH, Bonser RS, Clutton-Brock T, Morton D, Paterson D, et al. Vagus nerve stimulation decreases left ventricular contractility in vivo in the human and pig heart. *J. Physiol.* 2001;**534**(Pt 2):547-52.
- [92] Curtis MJ, Hancox JC, Farkas A, Wainwright CL, Stables CL, Saint DA, et al. The Lambeth Conventions (II): guidelines for the study of animal and human ventricular and supraventricular arrhythmias. *Pharmacol Ther.* 2013;**139**(2):213-48.
- [93] Brown DA, Aon MA, Akar FG, Liu T, Sorrairain N, O'Rourke B. Effects of 4'-chlorodiazepam on cellular excitation-contraction coupling and ischaemia-reperfusion injury in rabbit heart. *Cardiovas Res.* 2008;**79**(1):141-9.
- [94] Palee S, Weerateerankul P, Chinda K, Chattipakorn SC, Chattipakorn N. Mechanisms responsible for beneficial and adverse effects of rosiglitazone in a rat model of acute cardiac ischaemia-reperfusion. *Exp Physiol.* 2013;**98**(5):1028-37.

- [95] Thummasorn S, Kumfu S, Chattipakorn S, Chattipakorn N. Granulocyte-colony stimulating factor attenuates mitochondrial dysfunction induced by oxidative stress in cardiac mitochondria. *Mitochondrion*. 2011;**11**(3):457-66.
- [96] Yarana C, Sripetchwandee J, Sanit J, Chattipakorn S, Chattipakorn N. Calcium-induced cardiac mitochondrial dysfunction is predominantly mediated by cyclosporine A-dependent mitochondrial permeability transition pore. *Arch Med Res*. 2012;**43**(5):333-8.
- [97] Mateos R, Lecumberri E, Ramos S, Goya L, Bravo L. Determination of malondialdehyde (MDA) by high-performance liquid chromatography in serum and liver as a biomarker for oxidative stress. Application to a rat model for hypercholesterolemia and evaluation of the effect of diets rich in phenolic antioxidants from fruits. *J Chromatogr B Analyt Technol Biomed Life Sci*. 2005;**827**(1):76-82.
- [98] Li F, Fan X, Zhang Y, Pang L, Ma X, Song M, et al. Cardioprotection by combination of three compounds from ShengMai preparations in mice with myocardial ischemia/reperfusion injury through AMPK activation-mediated mitochondrial fission. *Sci Rep*. 2016;**6**:37114.
- [99] Brack KE, Winter J, Ng GA. Mechanisms underlying the autonomic modulation of ventricular fibrillation initiation—tentative prophylactic properties of vagus nerve stimulation on malignant arrhythmias in heart failure. *Heart Fail Rev*. 2013;**18**(4):389-408.
- [100] Whelan RS, Kaplinskiy V, Kitsis RN. Cell death in the pathogenesis of heart disease: mechanisms and significance. *Annu Rev Physiol*. 2010;**72**:19-44.
- [101] Boengler K, Ruiz-Meana M, Gent S, Ungefug E, Soetkamp D, Miro-Casas E, et al. Mitochondrial connexin 43 impacts on respiratory complex I activity and mitochondrial oxygen consumption. *J Cell Mol Med*. 2012;**16**(8):1649-55.

- [102] Liu J, Wang H, Li J. Inflammation and Inflammatory Cells in Myocardial Infarction and Reperfusion Injury: A Double-Edged Sword. *Clin Med Insights Cardiol.* 2016;**10**:79-84.
- [103] Sun L, Zhao M, Yu XJ, Wang H, He X, Liu JK, et al. Cardioprotection by acetylcholine: a novel mechanism via mitochondrial biogenesis and function involving the PGC-1alpha pathway. *J Cell Physiol.* 2013;**228**(6):1238-48.
- [104] Yan W, Zhang H, Liu P, Wang H, Liu J, Gao C, et al. Impaired mitochondrial biogenesis due to dysfunctional adiponectin-AMPK-PGC-1alpha signaling contributing to increased vulnerability in diabetic heart. *Basic research in cardiology.* 2013;**108**(3):329.



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved