International Journal of Cardiology 288 (2019) 123

Contents lists available at ScienceDirect

International Journal of Cardiology

journal homepage: www.elsevier.com/locate/ijcard

Letter to the Editor

New light shed on the old herb – *Silybum marianum*

Zhen Zhao [a,g], Johnie Hodge [b], Dawei Wang [a,c,d,e,*], Qing Liu [a,c,f,**]

[a] The Second Clinical School of Medicine, Guangzhou University of Chinese Medicine, Guangzhou, China
[b] Department of Cell Biology and Anatomy, University of South Carolina School of Medicine, Columbia, SC, USA
[c] Emergency Department, Guangdong Provincial Hospital of Chinese Medicine, Guangzhou, China
[d] Guangdong Provincial Key Laboratory of Research on Emergency in Traditional Chinese Medicine, Guangdong Provincial Hospital of Chinese Medicine, Guangzhou, China
[e] Shunde Hospital of Guangzhou University of Chinese Medicine, Foshan, China
[f] Department of Immunology, School of Basic Medical Sciences, Fudan University, Shanghai, China
[g] The 85th Hospital of CPLA, Shanghai, China

ARTICLE INFO

Article history:
Received 27 January 2019
Accepted 7 February 2019

Keywords:
Silybum marianum
Cardioprotection
Herbal medicine
Pre-clinical studies
Clinical trials

Dear editor,

We read the article [1] revealing the cardioprotective roles of *Silybum marianum* (SM) with great interest. Both its use as a preventative therapy prior to myocardial infarction (MI) with antioxidant properties and as a therapeutic medication post-MI with antifibrotic properties present significant potential benefit to patients. The observation of these findings in swine [1], a more representative model of human cardiac function than those used in previous reports testing single herbal compounds (cardiomyocytes, heart tissue, or rats [2,3]) is especially promising. SM has also been tested with some success in other diseases [4]. We published a review of herb-derived medicine in cardioprotection via antioxidation [5], and communication here is aimed to support the testing of SM in pre-clinical studies and clinical trials.

SM is a low-cost, ancient medicine in use for centuries. The medicinal value of SM in cardiovascular diseases was described in *Taiping-Shenghui Fang*, the largest official medical book in China before 10th century AD. SM has a worldwide distribution, and is cultivated for pharmaceutical use in many countries. A formulation that has been commonly used in Asian clinics since the 1200s, *Silybum-Marianum Decoction*, contains the main herb SM with all of its water soluble ingredients.

Though some studies have been performed, there is still not yet sufficient evidence to be certain that SM would benefit patients with MI. Further study, in the form of more detailed animal studies and pre-clinical trials, is warranted to take SM from traditional usage to future clinical trials.

Conflicts

None.

Acknowledgments

Supported by National Natural Science Foundation of China (No. 81603460, to Q.L.), and Administration of Traditional Chinese Medicine of Guangdong Province (No. 20184015).

References

[1] G. Vilahur, L. Casani, E. Pena, J. Crespo, O. Juan-Babot, S. Ben-Aicha, et al., Silybum marianum provides cardioprotection and limits adverse remodeling post-myocardial infarction by mitigating oxidative stress and reactive fibrosis, Int. J. Cardiol. 270 (2018) 28–35.
[2] E. Gabrielova, L. Bartosikova, J. Necas, M. Modriansky, Cardioprotective effect of 2,3-dehydrosilybin preconditioning in isolated rat heart, Fitoterapia 132 (2019) 12–21.
[3] Z. Svagera, N. Skottova, P. Vana, R. Vecera, K. Urbanek, M. Belejova, et al., Plasma lipoproteins in transport of silibinin, an antioxidant flavonolignan from Silybum marianum, Physiol. Res. 17 (2003) 524–530.
[4] M.W. Fried, V.J. Navarro, N. Afdhal, S.H. Belle, A.S. Wahed, R.L. Hawke, et al., Effect of silymarin (milk thistle) on liver disease in patients with chronic hepatitis C unsuccessfully treated with interferon therapy: a randomized controlled trial, JAMA 308 (2012) 274–282.
[5] D. Wang, J. Wang, Y. Liu, Z. Zhao, Q. Liu, Roles of Chinese herbal medicines in ischemic heart diseases (IHD) by regulating oxidative stress, Int. J. Cardiol. 220 (2016) 314–319.

* Correspondence to: D. Wang, Shunde Hospital of Guangzhou University of Chinese Medicine, Foshan, China.
** Correspondence to: Q. Liu, The Second Clinical School of Medicine, Guangzhou University of Chinese Medicine, 111 Dade Road, Yuexiu District, Guangzhou 510405, China.
E-mail addresses: davidwang33@139.com (D. Wang), 851757626@qq.com (Q. Liu).

https://doi.org/10.1016/j.ijcard.2019.02.013