Good Practice in Traditional Chinese Medicine Research in the Post-genomic Era

GP-TCM

223154

D5.14

Final report published in scientific journals

Document description	
Name of document	Final report published in scientific journals
Abstract	WP5 members have produced 3 articles (2 published and 1 submitted) and 4 abstracts as a result of their joint efforts.
Document identifier	D5.14
Document class	Deliverable
Version	1.0
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Date of creation	25th March 2012
Date of last modification	27th April 2012
Status	Final
Destination	European Commission
WP number	WP5

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1. FINAL REPORT PUBLISHED IN SCIENTIFIC JOURNALS

WP5 members have produced a) 3 articles as a result of their joint efforts and b) 4 poster presentations in international scientific meetings.

1.1 Articles

Journal of Ethopharmacology, Volume 140, Issue 3 (2012)

Special Issue Good Practice in Traditional Chinese Medicine Research in the Post-genomic Era

ARTICLE 1:

MEDLINE-based assessment of animal studies on Chinese herbal medicine
Pages 545-549
Noelia Tejedor Garcia, Laura Garcia Bermejo, Ana Belen Fernandez Martinez, Gemma Olmos Centenera, Rajendra Kumari, Qihe Xu, Xiaodong Cheng, Sue Watson, Francisco Javier de Lucio Cazaña

Web link: http://www.sciencedirect.com/science/article/pii/S037887411200089X

Abstract

Ethno-pharmacological relevance
The scientific proof and clinical validation of Chinese herbal medicine (CHM) require a rigorous approach that includes chemical standardization, biological assays, animal studies and clinical trials.
Aim of the study
To assess the experimental design of animal experiments for studying the activity of Chinese Herbal Medicine by selection and scrutinizing of a series of papers in some major disease areas.
Materials and Methods
We have analyzed the English publications reported in MEDLINE (ISI Web of Knowledge)
Results
Our data showed that i) research of CHM during the last 10 years had been highly intensified and become more accessible worldwide through increased publications in English, although still most authors had Chinese names; ii) English journals publishing animal research of CHM were comparable to those publishing animal studies of non-Chinese phytotherapy in terms of impact factor; and (iii) published data on authentication and quality control of CHM, as well as research design of animal studies were far from sufficient to meet the criteria needed to support their reproducibility and reliability.
Conclusions and perspectives
The recent decade witnessed an increase in CHM research activities and CHM English publications. Based on common problems identified in publications on CHM animal studies, we have proposed a checklist that could help in preliminary selection of publications lacking the most common problems and thus would be useful for a quick search of reproducible CHM regimens that are likely to be effective in a given context. The second application of this checklist is to help avoid the most common problems when designing experiments.

ARTICLE 2:

Omic techniques in systems biology approaches to traditional Chinese medicine research: Present and future
Pages 535-544
Alessandro Buriani, Maria L. Garcia-Bermejo, Enrica Bosisio, Qihe Xu, Huige Li, Xuebin Dong, Monique S.J. Simmonds, Maria Carrara, Noelia Tejedor, Javier Lucio-Cazana, Peter J. Hylands
Joint article WP4/WP5

Web link: http://www.sciencedirect.com/science/article/pii/S0378874112000682

Abstract

Omic techniques have become key tools in the development of systems biology. As the holistic approaches underlying the practice of traditional Chinese medicine (TCM) and new tendencies in Western medicine towards personalised medicine require in-depth knowledge of mechanisms of action and active compounds, the use of omic techniques is crucial for understanding and interpretation of TCM development, especially in view of its expansion in Western countries. In this short review, omic applications in TCM research are reviewed which has allowed some speculation regarding future perspectives for these approaches in TCM modernisation and standardisation. Guidelines for good practice for the application of omics in TCM research are also proposed.

ARTICLE 3:

CHM in Cancer: Recent Progress in Animal Studies
Wenjia Yang, Guoling Li, Maria Laura García Bermejo, Noelia Tejedor Garcia, Gemma Olmos Centenera, Francisco Javier de Lucio Cazaña, Xiaodong Cheng
In preparation

ABSTRACT
Cancer is one of the common diseases which most patients would die from. There is a long history that traditional Chinese Medicine (TCM) has been used to treat human cancer diseases due to its significant efficacy in clinic. Recently more and more scientists are getting interested in the application of TCM to the treatment of cancer diseases, and therefore, a large number of experimental studies on anti-tumor effects of TCM have been carried out. Based on the literature in the past ten years, we reviewed the status of animal models for cancer research in TCM. At present, the animal models with the widest use in experimental therapeutics of TCM are transplanted animal tumor models and induced tumor models. The diagnosis of animal models for cancer research inTCM followed mostly the criteria of Western medicine and lacked the one from TCM syndromes. In most experimental studies, quite few signs and symptoms of animal models for cancer research were determined. The signs and symptoms described in the literature were as follows: body weight, food intake, hair, activity, faeces. Moreover, these signs and symptoms were investigated generally and commonly, but not as the evaluation or the mark of the efficacy of TCM specifically. At present, in the experimental studies of animal models for cancer research, most researchers mainly determine the clinical efficacy of TCM through the following indicators: tumor size and weight, tumor growth inhibition, inhibitory rate of metastasis, and survival time. Despite numerous studies about animal models of cancer, these experimental studies are not standardized. Results are therefore inconclusive. Future studies should fulfill the following criteria: i) it is needed to focus more on standardization in terms of physical and biological parameters, ii) the diagnostic criteria of animal models for cancer research should be standardized and quantified (histological stage of the tumor), and iii) the assessment and evaluation of efficacy needs to be unified as well.

1.2 Poster presentations in international scientific meetings

11th Congress of the International Society of Ethnopharmacology
Sept 2010, Albacete, SPAIN
Revista de Fitoterapia 2010, 10(S1)

ISE3-P40 Animal Models for Cancer Research in Traditional Chinese Medicine
W. Yang [a], G. Li [a], L. Garcia [b], G. Olmos [c], F. Lucio [c], X. Cheng [a,d]
(a) Yue-yang Hospital, Shanghai University of Traditional Chinese Medicine, Shanghai 200437, China; (b) University Hospital Ramon y Cajal, 28034 Madrid, Spain; (c) Department of Physiology, University of Alcala, 28871 Alcala de Henares, Spain; (d) Tongji University, Shanghai 200092, China

ISE3-P28 Scientific Publications on Animal Studies of Chinese Herbal Medicines (CHM)
Tejedor-N [a], Garcia-L [b], Olmos-G [a], Dong-X[c], Ye-Z[d], Kumari-R[e], Xu-Q[c], Watson-S[e], Cheng-X[f], Li-P[g], Lucio-F[a]
(a) Dept Physiology, Univ. Alcala 28871 Alcala de Henares, Spain (b) Hospital Ramon y Cajal, Madrid, Spain; (c) King's College London, UK (d) China Academy of Chinese Medical Sciences (e) Univ. Nottingham UK; (f) Tongji University, and Yue-yang Hospital, Shanghai University of TCM, Shanghai, China (g) China-Japan Friendship Hospital, Beijing, China

ISE1-P05 Review of Oncology-focussed publications in the field of Chinese Herbal Medicine
Kumari-R[a], Lucio-F[b] , Garcia-Bermejo L[c], Watson-S[a]
(a) Univ. Nottingham UK; (b) Dept Physiology, Univ. Alcala 28871 Alcala de Henares, Spain (c) Hospital Ramon y Cajal, Madrid, Spain; (c) King's College London, UK

Traditional Chinese Medicine Symposium
July 2011, Braga, Portugal

State of the art in animal studies of Chinese Herbal Medicine
Noelia Tejedor[a], Laura García Bermejo[b], Rajendra Kumari[c], Gemma Olmos[a], Ana Fernandez[a], Qihe Xu[d], Sue Watson[c], Xiaodong Cheng[e], Francisco J Lucio[a]
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