Traditional Chinese Medicine in Cancer: Recent Progress in Animal Studies

Wenjia Yang\textsuperscript{a}, Guoling Li\textsuperscript{a}, Maria Laura García Bermejo\textsuperscript{b}, Noelia Tejedor\textsuperscript{c}, Gemma Olmos\textsuperscript{c}, Francisco Javier de Lucio Cazaña\textsuperscript{c}, Xiaodong Cheng\textsuperscript{a,d,*}

\textsuperscript{a}Yue-yang Hospital, Shanghai University of Traditional Chinese Medicine, Shanghai 200437, China
\textsuperscript{b}University Hospital Ramon y Cajal, 28034 Madrid, Spain
\textsuperscript{c}Department of Physiology, University of Alcala, 28871 Alcala de Henares, Spain
\textsuperscript{d}School of Life Sciences and Technology, Tongji University, Shanghai 200092, China

*Corresponding author. Tel: +86-21-65980295; Fax: +86-21-65981041;
E-mail address: xcheng@tongji.edu.cn

This work was supported by the Shanghai Oriental Scholar Grant and the Shanghai Human Resource Developing Grant.

Cancer is one of the common diseases from 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 therapies of Chinese medicine to cancer diseases, and therefore, a
large number of experimental studies on anti-tumor effects of Chinese
medicine 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. Recently it was reported that the animal models with the widest
use in experimental therapeutics of TCM are transplanted animal tumor
models and induced tumor model. The diagnosis of animal models for
cancer research followed mostly the criteria of western medicine, lack the
diagnosis 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 Chinese medicine. Now,
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 there are a large
number of studies about animal models of cancer, but the problem is that
the experimental studies are not so standardized. Therefore, we should
concentrate more on standardization in the future studies. The diagnostic criteria of animal models for cancer research needs to be quantified and standardized, and the efficacy evaluation needs to be unified as well.