THE APPLICATION OF CHINESE HERBAL MEDICINE IN PREVENT
SALMONELLA ENTERICA SEROVAR TYPHIMURIUM INFECTION

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Objective: Salmonella is a common zoonotic pathogen causing salmonellosis in
human and severe infections in animals. It constitutes a major public health problem
and creates severe economic impacts in many countries. Salmonella enterica serovar
Typhimurium is one of the important serotypes causing salmonellosis transmitted
from animals to humans.
Method: Eight herbal plants and four traditional Chinese medicine (TCM) formulas
were used to evaluate their efficiency on preventing S. Typhimurium infection by a
murine model.
Results: Coptidis rhizome (CR) and Si Jun Zi Tang (SJZT) could significantly
decrease the bacterial load in organs and blood after challenge, and they also
prevented the mice from body weight loss caused by infection. Scutellariae radix
(SR), CR, Gardeniae fructus (GF) and SJZT decreased infection-induced IFN-γ level
in serum and TNF-α level in intestinal tissue.
Conclusion: Chinese herbal medicine showed their potential in preventing S.
Typhimurium infection. This study offers an alternative way to diminish the risk of
Salmonella infection in human and animals and the development of
multidrug-resistant strains by using varied characteristics of herbal plants as infection
prevention agents.

Key words: S. Typhimurium, Chinese herbal medicine