

Studies on the Chemical Constituents of *Lonicera japonica*

THUNBERG var. *sempervillosa* HAYATA in Taiwan

Mei-Ling Chang

Institute of Chinese Pharmaceutical Sciences
China Medical College

Abstract

Jin-yin-hua is a famous Chinese herb and has been used for the treatment of various diseases, such as anti-virus, antibacterial, anti-HIV, indicating possible antiplatelet aggregation, antimicrobia, anti-inflammatory, clearing heat and detoxication effect.

Lonicera japonica THUNBERG var. *sempervillosa* HAYATA is distributed widely in Taiwan, such as Pu Li (Nantou county), Tien Wei (Chang Hua county) and Da Keng (Taichung county). Its chemical constituents, and pharmacological effects has never been studied at all. This study deals with the investigation of the chemical constituents, a UV spectrophotometry method was developed for determining chlorogenic acid, and comparative study on essential oil by GC/MS analysis, and water content percentage were determined in different growth stages of Jin-yin-hua.

Isolation and characterization resulted in the identification of six compounds: nonacosane, hentriacontane, octacosanyl hexadecanoate, mixture of phytosterol, tetracosanoic acid and docosanoic acid.

Chlorogenic acid is a phenolic acid that widely exists in herbal plants including Flos *Lonicera* as an active component. Chlorogenic acid was chosen as the marker substance for evaluating the quality of Chinese medicines. A UV spectrophotometry method was developed successfully to determine the quantity of chlorogenic acid. As a result, the amounts of chlorogenic acid in green buds and yellow flowers were 8.07 mg/g and

6.52mg/g , respectively.

Furthermore, a rapid, convenient and sensitive method was used to analyze the chemical constituents of essential oils in Flos *Lonicera* by GC/MS. The major compound was palmitic acid in most of samples analyzed.

Water content of fresh whole plants were determined and the results show that the content percentages are 87.21% in yellow flowers, 82.97% in white flowers, 79.62% in buds, 77.21% in green buds, 66.80% in stem and 63.52% in leaves, respectively.

This study is a reference for developing Chinese medicine and herb.