

SY3 NATURAL PRODUCTS AS DRUGS: EVALUATION OF EFFICACY AND SAFETY

Kittima Sriwatanakul

Department of Pharmacology, Faculty of Science, Mahidol University, Rama 6 Road, Bangkok 10400, Thailand

The new millennium has seen much greater interest in finding new remedies from natural products. The utilization of herbs in prevention and treatment of illness has a long history of development dated back to more than 5,000 years. Several important drugs have been successfully developed in the past, including quinidine from cinchona tree, aspirin from willow bark, paclitaxel from Pacific yew tree, artemisinin from Qinghaosu and vincristine from periwinkle plant. Herbal remedies suggested around 400-500 B.C. are still used today. For example, ephedra (Ma Huang) was recommended for the treatment of asthma. Today, physicians use the drug ephedrine, originally extracted from this herb, for a wide range of respiratory problems. In ancient days, there was no real understanding of human anatomy and physiology, physicians could only use external information to guess at the inner workings of the body. It is, therefore, necessary to use modern scientific evaluation to determine the efficacy and safety of natural products as being employed as drugs. The quest for newer compounds derived from plants is being sought after by pharmacologists worldwide. In Thailand, many academic and government agencies have initiated herbal drug development programs. However, since drug development is still at its infancy stage in Thailand, several obstacles have contributed to the delay in the process of herbal drug development. The safety issues need to be addressed in a more scientific manner even though most people seem to regard natural products as being devoid of toxicity. Examples of serious side effects have been observed with several plants such as Maklua. Many of the herbal products are widely recommended despite the fact that toxicity testings are not adequately performed. Attempts should be made to employ minimal toxicity testings to evaluate the safety aspects before allowing these products to be freely distributed. Regarding the efficacy, clinical trials to demonstrate the efficacy and safety of the herbal products are still lacking. In order to improve the efficiency of herbal drug developments, all weak points and major obstacles should be minimized. It is an undenying fact that Thai herbal medicines have played important roles in improving health of Thai people in the past. It is our responsibility to carry on making the old wisdom into modern drugs with the hope for being self-reliance and decreasing imports of western drugs and raw materials. Co-operation between all government and private sectors concerned needs to be encouraged. Even though registration of herbal medicine is less restricted than the western medicine, drug development program should comply with international guidelines to a certain extent. Natural products must at least undergo considerable evaluations for their efficacy and safety before they are allowed to be distributed in the market.