

LASKER AWARD FOR THE DISCOVERY OF ARTEMESININ

Tu youyou, an 81 year old Chinese lady is largely unknown, unfeted, and faceless in her own country but today she is famous all over the world for winning the Lasker Award for advances in medical research. It all started as a secret project of the Chinese Government in 1967. The task was to find an effective drug for malaria among the various herbs used in traditional Chinese medicines. Mao Zedong's urgings to "explore and further improve" the "great treasure house" of traditional Chinese medicine, pushed Tu to sift through ancient texts and folk remedies for possible leads. She painstakingly evaluated more than 2000 chinese herbs and by 1971 had 380 extracts from 200 plants. One of the most promising extracts was from qinghao, *Artemisia annua L.*, or sweet wormwood. But perplexingly the results were not always reproducible. For a while the secrets seemed locked behind the impenetrable walls of time. Unfazed she reopened the original ancient Chinese text *A Handbook of Prescriptions for Emergencies* by the third-century Chinese physician Ge Hong. The single cryptic line seemed to mock at her "A handful of qinghao immersed with two liters of water, wring out the juice and drink it all." Then came the blinding revelation that perhaps heating destroyed the active ingredient.

She went back to the laboratory. A non toxic neutral extract with minimal heating was produced. Such was their missionary zeal, Tu and two team members even volunteered to take the extract before antimalarial trials were done in patients. She also removed a harmful acidic portion of the extract that did not contribute to antimalarial activity, tracked the material to the leaves rather than other parts of the plant, and figured out when to harvest the herb to maximize yields. These innovations boosted potency and slashed toxicity. At a March 1972 meeting of the Project 523 group's key participants, she reported that the neutral plant extract —number 191—obliterated *Plasmodia* in the blood of mice and monkeys!

Several papers were published in Chinese journals all anonymously as was Chinese tradition in those days. But the first English language journal publication came in 1979. The group also purified the active ingredient using chromatography. They found that it had a unique molecular

structure radically different from all known antimalarials called sesquiterpene lactone. In the 1980's interest in Artemesinin continued to grow steadily. Today the WHO recommends artemesinin based combinations as first line for falciparum malaria. Tu Youyou's rediscovery of secrets discovered centuries ago by the ancient chinese has helped to save millions of lives round the world. (*The Lancet* 24 September 2011).

THE FOOD PLATE – THE NEW US ICON FOR HEALTHY EATING

The US Congress has a law that every 5 years "Dietary Guidelines for Americans" will be published to educate Americans with the most current, evidence based, scientific knowledge about healthy eating. The story about what went into making the 2010 guidelines which was released recently is fascinating. Between 1992 and 2005, the Food Guide pyramid has become one of the most visible, well known and influential icons in history. Nutrition educators, schools, the food industry and the general public have used it to modify eating behavior. But qualitative research in 2002-2004 found that while the Food Pyramid had great brand equity, something new was required to refocus attention on healthy eating. A plate of food was identified as a simple, appealing way to educate people about what they must eat.

Besides the food plate seven main messages were developed and studied: (1) Enjoy what you eat, just eat less of it; (2) Make half your plate fruits and vegetables; (3) Drink water instead of sugary drinks; (4) Make at least half your grains whole grains; (5) Avoid oversized portions; (6) Compare sodium in foods like soup, bread, and frozen meals – and choose the foods with lower numbers; and (7) Switch to 1% or fat-free milk.

Between 2011 and 2013, every 4 months, one of these messages will be sent out to the public via various public and private sector partners. The additional theme which will be stressed throughout these 2 years is "Be active your own way". (www.ChooseMyPlate.gov).

Gouri Rao Passi
gouripassi@hotmail.com