

American Chinese Pharmaceutical Association Newsletter

美洲華人藥學會通訊

Editor: James W. Shaw, Pharm.D., M.S.

July 2001

Message from the President Marina Y. Chang, R.Ph.

One school year is over, and everyone must be getting ready for summer vacation. Before you go, I just want to report that ACPA had a very successful 5th International Conference in Singapore. We had over 200 attendees (see attached group picture), and every one of them stayed until the end of the conference. On the third day, ACPA conducted a half-day business exchange forum. Many individuals expressed their wish that it could have been a whole-day affair. Immediately following the conference, ACPA conducted a two-day workshop in conjunction with the National Singapore University. Over 80 registrants attended this seminar. I want to thank Keith Chan (1994 ACPA President, USA), Van Doren Hsu (current ACPA Treasurer, USA), and Winston Town (Hong Kong) for coordinating the conference from afar. I also want to thank Wan Sia Heng and his staff in Singapore for providing topnotch local logistic support. Since we all had such a great time in Singapore and made new friends, Dr. Heng has decided to visit us in Washington, DC in July. ACPA will host a dinner for him as a token of our appreciation for a successful joint venture.

I promised that I would make ACPA an international organization and am happy to report that we have grown in our recognition abroad. While in Singapore, I met a number of people from Asian countries who indicated their desire to join ACPA. There were also a few individuals who asked if ACPA could co-host an international conference in their respective country. I am proud to say that I signed an agreement with the Modernized Chinese Medicine International Association Ltd. to be one of the supporting organizers of their First International Conference and Exhibition on the Modernization of Chinese Medicine – 2002.

I want to inform you that the Washington Metropolitan Pharmacists held a free CE dinner in one of our local restaurants. We appreciate the efforts of David Chen, Chief Pharmacist at Shady Grove Hospital, in coordinating this event. At the dinner, the local chapter acknowledged four Asian American students from the University of Maryland School of Pharmacy (David Shen, Mandy Kwong, Kan Ku, and Jim Tang, see attachment) and provided each of them with a small gift. I hope that people in other regions will take the initiative to coordinate similar activities.

I want to congratulate this year's scholarship recipients and thank Veronica Young and her committee members for their hard work in selecting finalists. I know it is not an easy task, but it is an important function of our organization.

Finally, you will note that this is the first issue of the newsletter to be sent to members using electronic media. By issuing the newsletter in PDF format, we will not only reduce mailing expenses but also be able to provide our readers with a higher quality publication. We anticipate that future issues of the newsletter will be sent to members using this method.

Hope that you all have a nice summer!

Report from the Program Committee Jinn Wu, Ph.D.

The ACPA 5th International Conference in Singapore was very successful. We wish to congratulate the Conference Program Chair, Keith Chan, for a well-organized meeting. Also, we want to thank the host, Professor W. S. Heng of the National University of Singapore, and his team for their assistance. Four pictures from the conference are included in an attachment.

On June 30, 2001, ACPA and the Monte Jade Science & Technology Association – East invited Dr. Li-Wei Hsu of Advanced Gene Technology in Taichung, Taiwan to give a seminar entitled "The Great World in a Miniaturized HerboChip." The workshop was held at XenoBiotic Laboratories, Inc. There were 40 participants including ACPA Past-President Shiew-Mei Huang, ACPA Treasurer Peter King, Tony Yu, Jonas Wang, Diana Wu, and Yih-Chain Huang. Two pictures from the seminar are included with the newsletter.

The ACPA Annual Dinner meeting will be held on Tuesday, October 23, 2001 from 7 PM - 10 PM in Section A of the Plaza Ballroom at the Adam's Mark Denver Hotel. Brian B. Spears, Ph.D., Director of Pharmacogenetics at Abbott Laboratories, is among those being considered for the keynote address. If there are any other suggestions or recommendations, please contact me by e-mail at jwu@xbl.com as soon as possible. The meeting agenda and registration form will be available in early September.

Report from the Membership Committee Wen-Hwei Chou, Pharm.D., Ph.D.

The Membership Committee is soliciting help from existing ACPA members to recruit new pharmaceutical professionals to become members of ACPA. The membership application can be downloaded from our web site at http://www.acpa-pharm.org.

Report from the Nomination Committee Shiew-Mei Huang, Ph.D.

The Nomination Committee is seeking nominations for the Association's President-Elect for YR 2002. Individuals interested in pursuing this position or nominating others should notify the Committee Chair of their intent by August 1, 2001. Responses may be sent by mail to Shiew-Mei Huang, Ph.D., CDER/FDA, Rm. 3016, HFD-850, 1451 Rockville Pike, Rockville, MD 20852 or by e-mail to huangs@cder.fda.gov.

Report from the Scholarship Committee Veronica Young, Pharm.D.

The Scholarship Committee reviewed all applications submitted for the ACPA 2000-2001 Scholarship Competition. The final decision was difficult, but two very outstanding pharmacy students have been selected to be the recipients of our two \$1000 scholarships. They are Victoria Wang and Robyn Mah. Victoria is a first-year pharmacy student in the professional curriculum at The University of Arizona, Tucson. Robyn is a third-year pharmacy student in the professional curriculum at University of California, San Francisco. Congratulations to our two winners! We encourage all pharmacy students of Chinese heritage to watch for the announcement of the next Scholarship Competition, which will begin again in Fall 2001.

A special note of appreciation goes to Drs. Mary Ensom, Alan Lau, Kenneth Lem, and Anne Lin of the Scholarship Committee for taking the time to help with the extensive review process. Thanks for all the hard work!

Meeting Report for First International Conference on Complementary, Alternative, and Integrative Medicine Ming Hu, Ph.D.

The conference was held at the Cathedral Hill Hotel in San Francisco from May 17-19, 2001. Organized by Harvard University's Medical School and the University of California at San Francisco, the conference had major support from the National Center for Complementary and Alternative Medicine (NCCAM) and the Bernard Osher Foundation.

The conference was well attended, with over 400 participants from five continents. The participants represented a broad array of practice modalities and cultural backgrounds and included practitioners, scientists, regulators, and lawyers. The conference was divided into plenary lectures (5), podium presentations (23), and poster sessions (200). The keynote speaker was the Director of NCCAM, Dr. Stephen E. Straus. The emphasis of the presentations was on clinical trials (50%), basic science (23%), and research methodology (21%). Topics included surveys about the use of complementary and alternative medicine (CAM) in different populations, methodologies in CAM trials, clinical trials with CAM interventions, gene chips, and pharmacokinetic studies using cell culture model systems. Specific topics related to Traditional Chinese Medicine (TCM) included herbal and traditional medicine, energy therapy (qi gong), acupuncture, spinal manipulation (*tui na*), and meditation.

Several clinicians present at the conference had firsthand experience using CAM in treating patients. Although frustrated by the traditional lack of research support, they were fascinated by the potential benefits offered by CAM. Dr. Ted Kaptchuk of Harvard Medical School, who was the first American to receive a TCM doctoral degree from China following its reopening in the 1970s, shared his frustration about the current level of acceptance of TCM and how he has been perceived or labeled as an "enhanced placebo" effect enabler. In his presentation, he indicated that this label prompted him to devote a large portion of his research efforts to placebo effects. He is now a leading researcher in this field. After listening to Dr. Kaptchuk's talk, I believe that placebo control in studies of TCM will be critical to the acceptance of TCM by practitioners of Western medicine.

Other presentations that were of significant interest included those on mind-body interactions and difficulties in conducting clinical trials when using herbal or natural products. It was reported that the first large-scale clinical trial using St. John's Wort has been completed and that the data will soon be published. Contrary to a recent report about the ineffectiveness of St. John's Wort for treating severe depression, this trial was aimed at patients with an initial episode of mild depression. Available evidence suggests that St. John's Wort is likely to be most effective for reducing the symptoms of mild to moderate disease. The results of this study will have a major impact on the market for herbal medicines. If the results are positive, the credibility of herbal therapy will be enhanced. However, nonsignificant results will spark another round of debate about the public funding of CAM research.

During the meeting, NCCAM sponsored a workshop on how to apply for grant support administered by the Center. The Center represents an attractive funding source for practitioners who use CAM and investigators who conduct CAM research. The Center's budget ballooned from \$50 million in 1998 to roughly \$90 million in 2000. However, it is expected to increase at a pace comparable with that of other funding agencies in the coming years. The rate of grant approval is expected to decrease this year to about 10% because the number of applications has increased drastically.

Conference participants also discussed the formation of a new society that will be devoted to CAM and future research priorities in the field. Dr. Straus stressed the importance of evidence-based research so that CAM can be integrated into patient care.

The next conference will be held in April 2002 in Boston, MA. More information can be found at the NCCAM web site at http://nccam.nih.gov.

Recognition & Prevention of Herb-Drug Interactions Part II. Pharmacodynamic Interactions John K. Chen, Ph.D., Pharm.D., O.M.D., L..Ac.

In the last issue of the ACPA Newsletter, pharmacokinetic interactions involving drugs and herbal products were discussed. This installment of a two-part series considers pharmacodynamic interactions, as well as the potential teratogenic effects of herbal products.

Pharmacodynamic Interactions

Pharmacodynamics is the study of how drugs actually behave inside the human body. Pharmacodynamic interaction refers to the fluctuation in bioavailability of ingested substances as a result of synergistic or antagonistic interactions between herb/drug molecules. Pharmacodynamic interactions are generally more difficult to predict and prevent than pharmacokinetic interactions. Most of the pharmacodynamic interactions known now are documented through actual cases as opposed to laboratory experiments. The best way to prevent pharmacodynamic interactions is to follow the patient closely and monitor all clinical responses, including signs, symptoms, and any abnormal reactions. Examples of pharmacodynamic interaction include additive and antagonistic interactions. An additive effect occurs when two drugs of similar properties show additive or exponential increase in clinical effects when given together. An antagonistic effect occurs when two drugs of similar properties show lessened or no clinical effect when given together.¹

Herb-to-Herb Interactions

Cases of pharmacodynamic interactions have also been documented in Oriental Medicine. The additive effect is generally referred to as mutual accentuation (xiang xu) or mutual enhancement (xiang shi), such as the combination of Gypsum (Shi Gao) and Rhizoma Anemarrhenae (Zhi Mu) to clear heat and purge fire. The antagonistic effect is generally referred to as mutual counteraction (xiang wei), mutual suppression (xiang sha), or mutual antagonism (xiang wu), such as the combination of Semen Raphani (Lai Fu Zi) and Radix Ginseng (Ren Shen) in which the effect of the latter herb is decreased.²

In addition, classic Chinese texts state numbers herbto-herb interactions, such as the Eighteen Incompatibles (Shi Ba Fan) and Nineteen Counteractions (Shi Jiu Wei). Eighteen Incompatibles (Shi Ba Fan) is a classic list of eighteen herbto-herb interactions. Nineteen Counteractions (Shi Jiu Wei) is a classic list of nineteen herbal combinations in which the herbs counteract each other. Combinations of such herbs will likely to lead to adverse effects and/or toxic reactions.²

The list of Eighteen Incompatibles (Shi Ba Fan) includes: Radix Glycyrrhizae (Gan Cao) is incompatible with Radix Euphorbiae Kansui (Gan Sui), Radix Euphorbiae seu Knoxiae (Da Ji), Flos Genkwa (Yuan Hua), and Herba Sargassum (Hai Zao); Rhizoma Aconiti (Wu Tou) is incompatible with Bulbus Fritillariae Cirrhosae (Chuan Bei Mu), Bulbus Fritillariae Thunbergii (Zhe Bei Mu), Fructus Trichosanthis (Gua Lou), Rhizoma Pinelliae (Ban Xia), Radix Ampelopsis (Bai Lian), and Rhizoma Bletillae (Bai Ji); Rhizoma et Radix Veratri (Li Lu) is incompatible with Radix Ginseng (Ren Shen), Radix Glehniae (Bei Sha Shen), Radix Adenophorae (Nan Sha Shen), Radix Sophorae Flavescentis (Ku Shen), Radix Salviae Miltiorrhizae (Dan Shen), Radix Scrophulariae (Xuan Shen), Radix Paeoniae Alba (Bai Shao), Radix Paeoniae Rubra (Chi Shao), and Herba Asari (Xi Xin).²

The list of Nineteen Counteractions (Shi Jiu Wei) includes: Sulfur (Liu Huang) and Mirabilitum (Mang Xiao); Mercury (Shui Yin) and Arsenolite (Pi Shuang); Rhizoma Euphorbiae E. (Lang Du) and Lithargyrum (Mi Tuo Seng); Semen Crotonis (Ba Dou) and Semen Pharbitidis (Qian Niu Zi); Flos Caryphylli (Ding Xiang) and Radix Curcumae (Yu Jin); Nitrum (Ya Xiao) and Rhizoma Sparganii (Shan Ling); Cornu Rhinoceri (Xi Jiao) and Rz. Aconiti Kusnezoffii (Cao Wu); Cornu Rhinoceri (Xi Jiao) and Rhizoma Aconiti (Chuan Wu); Radix Ginseng (Ren Shen) and Rhizoma Trogopterorum (Wu Ling Zhi); and Cortex Cinnamomi (Rou Gui) and Hallositum Rubrum (Chi Shi Zhi).²

Herb-to-Drug Interactions

Pharmacodynamic types of herb-to-drug interactions are best identified by analyzing the therapeutic effect of the herbs and drugs. Concurrent use of herbs and drugs with similar therapeutic actions will undoubtedly pose potential risk of herb-to-drug interactions. The increase in treatment effect interferes with optimal treatment outcome as the desired effect becomes more unpredictable and harder to obtain with precision. The highest risk of clinically significant interactions occurs between herbs and drugs that have sympathomimetic effects, cardiovascular effects, diuretic effects, anti-coagulant effects, or anti-diabetic effects.³

Herbs with sympathomimetic effects may interfere with anti-hypertensive and anti-seizure drugs. The classic example of an herb with sympathomimetic effects is Herba Ephedrae (Ma Huang), which contains ephedrine, pseudoephedrine, norephedrine, and other ephedrine alkaloids. Herba Ephedrae (Ma Huang) may interact with many other drugs and disease conditions and should always be used with caution in patients who have hypertension, seizures, diabetes, thyroid conditions, etc.³

Concomitant use of diuretic herbs and diuretic drugs may have additive or synergistic effects, making hypertension more difficult to control or hypotensive episodes more likely.³ The dosage of herbs and/or drugs must be adjusted to achieve optimal treatment outcome. Commonly used diuretic herbs include Poria Cocos (Fu Ling), Polypori Umbellati (Zhu Ling), Semen Plantaginis (Che Qian Zi), and Alismatis Orientalis (Ze Xie).

Herbs with anti-coagulant effects include herbs that have blood-activating and blood-stasis-removing functions. Such herbs may interfere with anti-coagulant drugs, such as Coumadin, to prolong bleeding time.³ Herbs that interfere with Coumadin include Salviae Miltiorrhizae (Dan Shen), Angelica Sinensis (Dang Gui), Ligustici Chuanxiong (Chuan Xiong), Persicae (Tao Ren), Carthamus Tinctorii (Hong Hua), and Hirudo seu Whitmania (Shui Zhi).

Anti-diabetic herbs may interfere with anti-diabetic drugs by enhancing hypoglycemic effects. The dosage of herbs and drugs must be balanced carefully to effectively control the blood glucose level without causing hyper- or hypoglycemia.³ Herbs with definite hypoglycemic effects include the following pairs of herbs: Anemarrhena Asphodeloidis (Zhi Mu) and Gypsum Fibrosum (Shi Gao); Scrophularia Ningpoensis (Xuan Shen) and Atractylodes (Cang Zhu); and Dioscorea Oppositae (Shan Yao) and Astragalus Membranacei (Huang Qi).

Teratogenic Herbs

Teratogenic herbs are known to have the tendency or likelihood of causing danger or harm to the fetus during pregnancy, thus leading to birth defects or spontaneous abortion. Teratogenic herbs are classified in two categories: prohibited and use with caution.

Prohibited herbs are very potent and very toxic. The use of these herbs during pregnancy is prohibited to avoid possible harm to the fetus. Prohibited herbs include Semen Crotonis (Ba Dou), Semen Pharbitidis (Qian Niu Zi), Radix Euphorbiae (Da Ji), Mylabris (Ban Mao), Radix Phytolaccae (Shang Lu), Moschus (She Xiang), Rhizoma Sparganii (San Leng), Rhizoma Zedoariae (E Zhu), Hirudo seu Whitmania (Shui Zhi), and Tabanus (Meng Chong).

Herbs that should be used with caution are herbs that are pungent and warm in nature and have the functions to activate Qi, activate blood circulation, and remove blood stasis. They are also very potent in nature and should be avoided during pregnancy whenever possible. The use of these herbs should be limited only to later stages of pregnancy and only when the benefits of using the herbs outweigh the risks. Herbs that should be used with caution include Semen Persicae (Tao Ren), Flos Carthami (Hong Hua), Rz. et Rx. Rhei (Da Huang), Fructus Aurantii (Zi Shi), Radix Aconiti (Fu Zhi), Rhizoma Zingiberis (Gan Jiang), and Cortex Cinnamomi (Rou Gui).

References

- 1. Kalant H, Roschlau WHE, editors. Principles of medical pharmacology. 6th ed. New York (NY): Oxford University Press; 1998.
- Bensky D, Gamble A, Kaptchuk T. Chinese herbal medicine materia medica. Rev. ed. Seattle (WA): Eastland Press; 1986.
- D'Arcy PF. Adverse reactions and interactions with herbal medicines. Part 2 – Drug interactions. Adverse Drug Reactions and Toxocological Reviews 1993; 12(3): 147-162.