

漢方薬学分野 Division of Pharmacognosy

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◇研究目的 Aims of the research projects

漢方薬学分野は、漢方医薬に関する経験知を継承し、現代医療に資する価値（客観知）を創造する研究を目指している。

研究領域は、1) 基盤研究として漢方薬材学と医薬史学、2) 目的基礎研究として漢方薬剤学、3) 応用研究としての漢方医療情報学がある。

1) は、栽培薬用資源を開発し従来の野生品との同等性を評価する資源科学と、漢方薬の来源や用薬規範を医薬史的に考証し新たな生薬処方（和の漢方方剤）を考案する指針を得る基盤研究である。2-3) は、医療現場の課題に焦点をあてた課題解決型（issue- and solution oriented）の生物系・病院薬学系の研究（漢方医療薬学）を目指している。

◇研究概要 Research projects

1. 漢方医薬の資源科学的研究

1) 地球環境保全に配慮した栽培資源の開発と評価

【原著論文：7,8. ; 学会報告：12.】

2) 医薬史学研究

【原著論文：6,11,12. ; 学会報告：8. ; その他：1.】

3) その他の研究。

【原著論文：2.】

2. 漢方医薬の薬剤薬理学的研究

1) 現代医療を補完する漢方製剤の応用展開に関する薬理研究。

【原著論文：1,4. ; 総説：2. ; 学会報告：1,2.】

2) 漢方製剤と西洋薬剤の併用療法を検証する生物薬剤学的研究。

【原著論文：5,9,10. ; 学会報告：7.】

3) 生薬製剤の配合意義を検証し新たな配置薬を開発する生物薬剤学的研究。

【原著論文：3. ; 学会報告：4,9,11. ; その他：2-7, 14】

4) その他の研究。

【学会報告：5,10.】

3. 漢方医薬の医療情報研究

1) 漢方薬学の卒前・卒後生涯教育、一般人への教育啓蒙活動。

【総説：1,2. ; その他：10,12,13.】

4. その他の研究

1) 山路助手の研究活動（薬効解析センターとの共研を含む）。

【原著論文：13. ; 学会報告：3,6. ; 海外調査：1. ; その他：8,11.】

◇原著論文 Original papers

- 1) Chung H.-J., Maruyama I. and Tani T.: Saiko-ka-Ryukotsu-Borei-To inhibits intimal thickening in carotid artery after balloon endothelial denudation in cholesterol-fed rats. *Biol. Pharm. Bull.*, 26 (1): 56-60 (2003)

Abstract: Oral administration of Saiko-ka-Ryukotsu-Borei-To (SRB), a traditional Chinese formulation, dose dependently inhibited intimal thickening in carotid artery injured by balloon endothelial denudation in cholesterol-fed rats. SRB also inhibited vascular smooth muscle cell (VSMC) proliferation, which is assessed by counting the VSMCs immunoreactive with antiproliferating cell nuclear antigen (PCNA) antibody in the intimal area. VSMC proliferation is considered to play a central role in the development of intimal thickening. SRB slightly, but not significantly, reduced serum total cholesterol and low-density lipoprotein cholesterol. These results indicate that the suppressive effect of SRB on intimal thickening may result from its inhibitory effect against VSMC proliferation, but does not depend on lowering of lipid levels.

The balloon injury model used in this study has similar pathological processes to restenosis after percutaneous coronary intervention (PCI). Therefore the present results may provide a new therapeutic strategy using SRB to reduce restenosis after PCI in the treatment of patients with ischemic coronary artery disease. Furthermore, since it is considered that artery restenosis after balloon injury in PCI is "accelerated atherosclerosis," SRB may have beneficial effects in atherosclerosis that develops over a long clinical course in hyperlipidemia, diabetes, etc.

- 2) Zhang S.-X., Tani T., Yamaji S., Ma C.-M., Wang M.-C., Cai S.-Q. and Zhao Y.-Y.: Glycosyl flavonoids from the roots and rhizomes of *Asarum longerhizomatosum*. *J. Asian Nat. Prod. Res.*, 5 (1): 25-30 (2003)

Abstract: Two new glycosyl flavonoids including a glycosyl aurone were isolated, together with six known flavonoids, from the roots and rhizomes of *Asarum longerhizomatosum*. The structures of the two new compounds were elucidated as 4,6,4'-trihydroxy-aurone-4,6-di-O- β -D-glucopyranoside (7, caulesauroneside) and naringenin-7,4'-di-O- β -D-glucopyranoside (8, caulesnarinside). The six known flavonoids were identified as naringenin (1), naringenin-5-O- β -D-glucopyranoside (2), naringenin-7-O- β -D-glucopyranoside (3), chalcononaringenin-2'-O- β -D-glucopyranoside (4), naringenin-5,7-di-O- β -D-glucopyranoside (5), chalcononaringenin-2',4'-di-O- β -D-glucopyranoside (6) respectively. This is the first report of the isolation of aurones in the family Aristolochiaceae.

- 3) Baba T., Nishino T. and Tani T.: Effects of herbal drugs prescribed in wood creosote pills on the dissolution profile of guaiaicol. *Biol. Pharm. Bull.*, 26 (2): 194-198 (2003)

Abstract: Wood creosote pills (P4) containing wood creosote and four herbal drugs, Gambir, Phellodendri Cortex, Glycyrrhizae Radix, and Citri Unshiu Pericarpium (CUP), have been used to treat food poisoning and diarrhea through self-medication in Japan. The mean dissolution time (MDT) of guaiaicol, one of the active constituents of wood creosote, from P4 (138.3 ± 3.3 min) was significantly longer than that (42.6 ± 4.3 min) from pills (P0) containing only wood creosote. The MDT of the variant pills prepared from P4 without CUP (54.3 ± 12.5 min) was found to be significantly shorter than that of P4. These findings suggest that CUP plays an important role in sustaining the dissolution of guaiaicol from P4. The long MDT of guaiaicol is considered one of the most important factors affecting the duration of efficacy after oral administration of wood creosote pills. The present findings are considered proof that CUP has been prescribed in traditional as well as new formulations of wood creosote pills.

- 4) Chung H.-J., Kim D.-W., Maruyama I. and Tani T.: Effect of traditional Chinese formulations on rat carotid artery injured by balloon endothelial denudation. *Am. J. Chin. Med.*, 31(2): 201-212 (2003).

Abstract: We examined the inhibitory effects of traditional Chinese formulations (TCFs) on rat intimal thickening

of carotid artery injured after balloon endothelial denudation. Among the eight TCFs examined, Oren-gedoku-to (Huanglian-Jiedu-Tang in Chinese), Choto-san (Diao-Teng-San), Saiko-ka-ryukotsu-borei-to (Chaihu-jia-Longgu-Muli-Tang) and Dai-joki-to (Da-Cheng-Qi-Tang) significantly inhibited intimal thickening 7 days after denudation. These four TCFs also inhibited vascular smooth muscle cells (SMCs) proliferation, which may play a central role for the development of restenosis after percutaneous coronary intervention (PCI). Present results suggest that further evaluation of four TCFs as an inhibitor of SMCs proliferation to prevent arteriosclerosis is warranted.

5) He J.-X., Akao T. and Tani T.: Influence of co-administered antibiotics on pharmacokinetic fate in rats of paeoniflorin and its active metabolite paeonimetabolin-I from Shaoyao-Gancao-tang. *J. Pharm. Pharmacol.*, 55 (3): 313-321 (2003)

Abstract: The effects of orally co-administered antibiotics on the pharmacokinetics of paeoniflorin (PF) and paeonimetabolin-I (PM-I), a bioactive metabolite derived from PF by intestinal bacteria, from Shaoyao-Gancao-tang (SGT, a traditional Chinese formulation), were investigated in rats to clarify the feasibility of administering SGT together with some synthetic drugs. Co-administration of the antibiotics amoxicillin and metronidazole (AMPC-MET) significantly increased the area under the plasma concentration versus time curve (AUC) of PF, while it markedly decreased that of PM-I, to 2.6 % of the normal AUC by administration of a single dose and less than 1 % by a 3-day pre-treatment. Similar effects were observed using the combination of ofloxacin (OFLX) with SGT. The PF-metabolizing activity of intestinal bacteria was reduced to 16 % and 33 % of the normal levels by treatment with AMPC-MET and OFLX, respectively, which caused alterations of that degree in the extent of absorption of PF and PM-I, but did not affect their rate of absorption or elimination. The present study suggests that it may not be appropriate to use SGT simultaneously with antibiotics such as AMPC-MET or OFLX, and also reveals the important role of intestinal bacteria in the pharmacokinetics of the active components of this traditional Chinese formulation.

6) 片貝真寿美, 赤丸敏行, 谿 忠人: 処方と生薬の使用頻度から『金匱要略』の用薬規範を探る. *薬史学雑誌*, 38 (1): 1-10 (2003)

Abstract: A systematic database was constructed to examine the frequency of appearance of individual formulations and crude drugs in Jin-Kui-Yao-Lue, a traditional Chinese formulary used for chronic miscellaneous internal diseases. This formulary contains 263 kinds of genuine formulations, but because of overlapping or repetition, the total number of formulations mentioned is up to 309. It was proved that among the 212 kinds of crude drugs described in Jin-Kui-Yao-Lue, the five crude drugs most frequently mentioned are Glycyrrhizae Radix, Cinnamomi Ramulus, Zingiberis Rhizoma, Zizyphi Fructus and Paeoniae Radix, which are used in Guizhi-tang, Keishi-to in Japanese. Mel used for preparing pills appears more frequently in Jin-Kui-Yao-Lue than in Shang-Han-Lun, which is the most commonly referred Chinese medical formulary for treatment of acute externally contracted disease. The way of using Astragali Radix, Sinomeni Caulis et Rhizoma, Moutan Cortex and Cnidii Rhizoma described in Jin-Kui-Yao-Lue differs from that described in Shang-Han-Lun. Furthermore, the directions for the use of Pinelliae Tuber for cold-phlegm syndrome and Poria for dampness-retention syndrome are developed in Jin-Kui-Yao-Lue.

7) Yamamoto Y., Majima T., He J.-X., Saiki I., and Tani T.: Chemical and pharmaceutical evaluation of Daitou-Gancao in comparison with usual Glycyrrhizae Radices. *J. Trad. Med.*, 20 (3): 102-110 (2003)

Abstract: The chemical and pharmaceutical characteristics of Daitou-Gancao (Taito-Kanzo in Japanese), which is a newly imported Chinese Glycyrrhizae Radix from about 1997 in order to make up the deficit of Dongbei-Gancao (Tohoku-Kanzo in Japanese). Its botanical origin was identified as *Glycyrrhiza uralensis* Fisch., by on-the-spot investigations in the Gansu and Shanxi provinces of China. The HPLC fingerprint of Daitou-Gancao was similar to that of two concurrent medicinal Dongbei- and Xibei-Gancao (Seihoku-Kanzo), but different from that of Xinjiang-

Gancao (Shinkyo-Kanzo), which does not conform to the Japanese Pharmacopoeia XIV standard. Daitou-Gancao and the medicinal Dongbei- and Xibei-Gancao were also clearly distinguishable from non-medicinal Xinjiang-Gancao by principal component analysis and hierarchical cluster analysis using 7 HPLC-peak-area data. Furthermore, Daitou-Gancao had an anti-allergic effect and pharmacokinetic profile of glycyrrhetic acid, an active metabolite of GL, similarly to Dongbei-Gancao. The present chemical and pharmaceutical study suggests that Daitou-Gancao could be used concurrently with Dongbei- and Xibei-Gancao, which conform to the JP XIV.

8) Yamamoto Y., Majima T., Saiki I., and Tani T.: Pharmaceutical evaluation of *Glycyrrhiza uralensis* roots cultivated in eastern Nei-Meng-Gu of China. *Biol. Pharm. Bull.*, 26 (8): 1144-1149 (2003)

Abstract: To clarify the feasibility of medicinal use of the cultivated *Glycyrrhiza* resources, the equivalency between the *G. uralensis* roots cultivated in eastern Nei-Meng-Gu of China and medicinal licorice (*Glycyrrhizae Radix*, Gancao in Chinese and Kanzo in Japanese) was examined. The HPLC fingerprint including glycyrrhizin (GL) of the cultivated roots was similar to that of medicinal Gancao, but different from that of non-medicinal Xinjiang-Gancao (Shinkyo Kanzo in Japanese). Similarity between the cultivated roots and two medicinal Gancao was confirmed quantitatively by hierarchical cluster analysis on the basis of HPLC-7-peak-area data. Moreover, the 4-year-old adventitious roots conformed to the five standards described in the Japanese Pharmacopoeia XIV (JP XIV). The 4-year-old adventitious roots had similar pharmaceutical properties to those of medicinal Dongbei-Gancao (Tohoku Kanzo in Japanese) as determined by examining IgE-mediated triphasic skin reaction in mice and pharmacokinetic profile of glycyrrhetic acid, an anti-allergic metabolite of GL. The present pharmaceutical study suggests that the 4-year-old adventitious roots of *G. uralensis* cultivated in eastern Nei-Meng-Gu of China are comparable to medicinal Gancao conforming to the JP XIV, and may be a potential medicinal source to compensate for the insufficiency of wild *Glycyrrhiza* plants caused by collection restriction in China.

9) He, J.-X., Akao T., and Tani T.: Repetitive administration of Shaoyao-Gancao-tang to rats restores bioavailability of glycyrrhizin reduced by antibiotic treatment. *J. Pharm. Pharmacol.*, 55 (11): 1569-1575 (2003)

Abstract: Shaoyao-Gancao-tang (SGT), a traditional Chinese formulation, is often used together with antibiotics such as amoxicillin and metronidazole (AMPC-MET) for the treatment of peptic ulcer in Japan. However, the bioavailability of glycyrrhizin (GL) in SGT was severely reduced by a single administration of AMPC-MET, and the reducing effect continued for 12 days. GL is one of the major pharmacologically important glycosides in SGT; GL is transformed into the active metabolite glycyrrhetic acid (GA) by intestinal bacteria in the gut, followed by absorption of the latter into the blood. In order to reduce the negative effect of AMPC-MET on bioavailability of GL, the optimum scheduling of the medications was examined. We found that the reductions of the plasma GA concentration and the GL-metabolizing activity in faeces caused by a single dose of AMPC-MET could be sharply attenuated by the repetitive administration of SGT for 4 days. The GA concentration and the GL-metabolizing activity were strongly enhanced by further continuous administration of SGT. The present findings suggest that repetitive administration of SGT starting 1 or 2 days after the administration of AMPC-MET speeds the recovery of the bioavailability of GL in SGT. Similar strategies for administering medications may also be useful for combination therapy of antibiotics with other traditional Chinese formulations containing bioactive glycosides.

10) He, J.-X., Akao T., and Tani T.: Restorative effect of repetitive administration of Shaoyao-Gancao-tang on bioavailability of paeoniflorin reduced by antibacterial synthetic drugs treatment in rats. *Biol. Pharm. Bull.*, 26(11), 1585-1590 (2003).

Abstract: Paeoniflorin (PF) is a bioactive glucoside in Shaoyao (peony root), that is transformed into an

antispasmodic metabolite, paeonimetabolin-I (PM-I); by intestinal bacteria in the gut after oral administration of Shaoyao or Shaoyao-Gancao-tang (SGT, Shakuyaku-Kanzo-To in Japanese). SGT is a pain-relieving traditional Chinese formulation (Kampo-medicine in Japanese) and is often used together with antibacterial synthetic drugs, such as amoxicillin and metronidazole (AMPC-MET), in peptic ulcer therapy. Since the bioavailability of PF in SGT has been reported to be significantly reduced by co-administered antibacterial drugs, we investigated how to minimize this reducing effect of antibacterial synthetic drugs treatment in the present study. We found that repetitive administration of SGT starting 24 h after AMPC-MET treatment rapidly restored the plasma PM-I concentration from SGT reduced by AMPC-MET, due to its restorative effect on the decreased PF-metabolizing activity of intestinal bacteria in rat feces. The present findings suggest that it may be clinically useful to administer SGT repetitively, starting 1 or 2 days after treatment with a mixture of AMPC-MET during their combination therapy, to accelerate the recovery of the reduced bioavailability of PF in SGT. Similar administration regimens may also be useful in other combination therapies involving traditional Chinese formulations and antibacterial synthetic drugs to ensure the efficacy of the bioactive glycosides in the formulations.

11) 片貝真寿美, 谿 忠人: 生薬の組み合わせ (薬対) から『傷寒論』の用薬規範を探る. 薬史学雑誌, 38 (2): 151-160 (2003)

Abstract: The frequency and way of using "Yao-dui (pair of two kinds of crude drugs, Yaku-tai in Japanese)" used in *Shang-Han-Lun*, a famous formulary in traditional Chinese medicine, was examined. The best ten kinds of pairs of two crude drugs frequently mentioned in the formulary were those among five drugs contained in *Guizhi-tang* (Keishi-to in Japanese), which is a major formulation in *Shan-Han-Lun*. Radix Glycyrrhizae Preparata (Sha-kanzo in Japanese) and Ramulus Cinnamomi (Keishi in Japanese) were used in pairs very frequently, which is used for the treatment of palpitation caused by deficiency of *Xin-yang* (Shin-yo-kyo in Japanese) and usually used with Poria. Radix Glycyrrhizae Preparata and Radix Paeoniae worked in pairs for the treatment of muscular spasm and pain due to *Xue*-deficiency-syndrome (Kekkyo in Japanese). Radix Glycyrrhizae Preparata is used together with Rhizoma Zingiberis (Kan-kyou in Japanese) for the treatment of diarrhea with cold pain in the lower abdomen and usually used with Radix Ginseng and Aconiti Preparata. The experimental knowledge of the way of these pairs of crude drugs will be useful to create new formulation of crude drugs for modern medical treatment.

12) 片貝真寿美, 谿 忠人: 『傷寒論』の病期別の薬対から用薬規範を探る. 薬史学雑誌, 38 (2): 193-204 (2003)

Abstract: In the "Shang-Han-Lun," a famous old formulary in traditional Chinese medicine, the exogenous diseases are classified into six stages of syndromes according to the progress of the illness in general terms for *tai-yang*, *shao-yang*, *yang-ming*, *tai-yin*, *shao-yin* and *jue-yin* stages. The frequency of particular combinations of two crude drugs used in the six stages of diseases was examined to obtain the guidance in the preparation of new and appropriate formulations for modern medical treatments. The best pairs frequently mentioned in *tai-yang* and *yang-ming* stages were the pair of Glycyrrhizae Preparata Radix (Sha-kanzo in Japanese) and Cinnamomi Ramulus (Keishi in Japanese), and Rhei Rhizoma and Natrii Sulfas, respectively. The characteristic combinations in the *shao-yang* stage were the pairs containing Scutellariae Radix and Pinelliae Tuber, which is contained in the formulation Xiao-Chai-Hu-tang (Sho-saiko-to in Japanese). The pair of Glycyrrhizae Preparata and Radix Paeoniae Radices is the characteristic in the *tai-yin* stage, which is used for the treatment of muscular spasms and pain. The pair of Aconiti Preparata and Zingiberis Rhizoma is used for the treatment of diarrhea with cold pain in the *shao-yin* and *jue-yin* stages. The present results of these particular pairings of crude drugs will be useful to create a new formulation of crude drugs for modern medical treatment.

13) Yang R.-P., Komatsu K., Sato T., Namba T., Yamaji S.: Pharmacognostical Studies on the Chinese Crude Drug "Xuelianhua" and Related Ethnomedicines (Part 4). On Botanical Origins of the Chinese "Xuelianhua" and Tibetan "sPang-rtzi" Derived from Species of Sect. Eriocoryne of Genus *Saussurea*. *J. Jap. Bot.*, 78(6): 315-329, 2003.

Abstract: In previous papers, we anatomically confirmed the botanical origins of the Chinese "Xuelianhua" and related crude drugs. They were shown to be derived from plants of subgenra Eriocoryne and Amphilaena of the genus *Saussurea* (Compositae). However, some samples circulated in the market were damaged by insects and/or shaking during transportation, and leaves were broken into fragments too small for anatomical scrutiny. In those samples, large amounts of woolly hairs were found and derived from subgen. Eriocoryne. In order to clarify the origin of such samples, morphological observations of the flowers, achenes, and pollen grains of Eriocoryne plants were carried out. We found that 12 species of subgen. Eriocoryne plants are distinguished by the following characteristics; the appearance of bristles consisting of emergences on the receptacle, the presence of coronule on achenes, pappus color, the presence of glandular hairs on the involucrel phyllaries, corolla tube and achenes and variation in ornamentation of pollen exine. Based on these results, the origins of "Xuelianhua" from Hongkong and "sPang-rtzi" from Golmud, Qinghai were identified to be a mixture of flowering whole plants of *S. namikawae* and *S. medusa*, and those of *S. quercifolia*, respectively.

◇総説 Review articles

- 1) 谿 忠人, 済木育夫: 小児のアレルギーと漢方: 漢方薬の将来的展望. 漢方と最新治療, 12 (2): 141-148, 2003
- 2) 谿 忠人: 代替医療と動脈硬化~漢方薬による動脈硬化予防へのアプローチ~. カレントセラピー, 21 (6): 605-608, 2003.

◇学会報告 Scientific presentation

◎国際学会, 特別講演

- 1) Chung H.-J., Maruyama I., Tani T.: Saiko-ka-Ryukotsu-Borei-To inhibits the migration and proliferation of vascular smooth muscle cell and results the suppression of carotid intimal thickness after balloon injury in rats. The 9th Southeast Asian-Western Pacific Regional Meeting of Pharmacologists (2003.8.19-23, Busan, Korea)
- 2) 谿 忠人: (特別講演) 動脈硬化を予防する柴胡加竜骨牡蛎湯の漢方薬学的評価. 日本東洋医学会 関東甲信越支部新潟県部会, 2003.9.21, 新潟.
- 3) Yamaji S., Komatsu K.: Plant Anatomy in Pharmacognosy: Present and Future. The 6th Joint Seminar Recent Advances in Natural Medicine Research, JSPS-NRCT Core University System on Natural Medicine in Pharmaceutical Sciences, 2003, 12, Bangkok.

◎一般報告

- 4) 谿 忠人: 富山オリジナルブランド医薬品の開発研究-富山医科薬科大学における取り組み状況-. 第22回家庭薬開発研究シンポジウム, 2003.1.13, 富山.
- 5) 所 崇, 谿 忠人, 北島 勲: 第三世代 HMG-CoA 還元酵素阻害薬 Pitavastatin の一酸化窒素 (NO) を介した血管内皮細胞保護作用. 日本薬学会第123年会, 2003.3.27. 長崎.
- 6) D. Dawa, 山路誠一, 小松かつ子: 薬物から見たチベット医学-中国『薬品標準 (蔵薬)』の収載処方について-. 日本薬学会第123年会, 2003.3.28. 長崎.
- 7) He J-X., Akao T., Tani T.: Repeated medication of Shaoyao-Gancao-tang restores bioavailability of its two glycosides in rats reduced by antibiotics. The 20 th Annual meeting of Medical and Pharmaceutical Society for WAKAN-YAKU. 2003.8.30-31, Kumamoto.
- 8) 片貝真寿美, 谿 忠人: 生薬の組み合わせ (薬対) から『金匱要略』の用薬規範を探る. 第20回和漢医薬学会大会, 2003.8.30-31, 熊本.

- 9) 馬場達也, 西野隆雄, 谿 忠人: 木クレオソート丸剤の止瀉成分 (guaiacol) の吸収におよぼす陳皮末の影響. 第20回和漢医薬学会大会, 2003.8.30-31, 熊本.
- 10) 佐藤祐司, 赤尾光昭, 何 菊秀, 間嶋孝美, 野島浩史, 倉石 泰, 谿 忠人: 芍薬甘草湯の鎮痛鎮痙作用-甘草成分イソリクリチゲニンによるマウス腸管収縮抑制-. 第20回和漢医薬学会大会, 2003.8.30-31, 熊本.
- 11) 地野充時, 手賀栄治, 櫻井宏明, 谿 忠人, 寺澤捷年, 済木育夫: Th1/Th2 バランスに及ぼす新しい和漢薬製剤 (富山オリジナルブランド) の効果. 第20回和漢医薬学会大会, 2003.8.30-31, 熊本.
- 12) 山本 豊, 間嶋孝美, 済木育夫, 谿 忠人: 中国内蒙古自治区東部で栽培した *Glycyrrhiza uralensis* 根の薬材規格と薬剤特性評価. 日本生薬学会第50回年会, 2003.9.12-13, 東京.

◇海外調査

- 1) 山路誠一: 国後島の薬用資源調査, (企画: 富山県および特定非営利活動法人北の海の動物センター). 8-28. Jul.2003.
- 2) 渡邊裕司, 小松かつ子, 谿 忠人: 大邱テクノパーク (韓国) との漢方薬学術交流調査 (企画: 富山新世紀産業機構). 5-9. Aug. 2003.

◇その他 (漢方医薬の Health and Medical Information 活動):

◎ 論説

- 1) 谿 忠人: 後ろを見ながら前に進む. 和漢薬, No.600: 67-71, 2003

◎ 新聞, TV など

- 2) 谿 忠人: 富山オリジナルブランド配置薬開発研究の経過 (記事). 讀賣新聞. 2003.1.1.
- 3) 谿 忠人: 生薬11種を配合した配置薬の富山オリジナルブランド (記事). 実業之富山, 58(1): 23-25, 2003.
- 4) 谿 忠人: 富山オリジナルブランド配置薬開発研究に関する家庭薬開発シンポジウムの講演内容 (記事). 薬日新聞. 2003.2.26.
- 5) 谿 忠人: 富山オリジナルブランド配置薬開発研究の経過 (放映). NHK-TV みんないけ富山. 2003.6.18.
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- 2) 赤丸敏行氏：(財)大阪漢方医学振興財団 主任研究員
「漢方医薬書のデータベース構築と医薬史学的研究」1998.3～
- 3) 済木育夫博士：和漢薬研究所・病態生化学分野教授
研究所統一テーマ「アトピー性皮膚炎モデルと漢方方剤の評価」1999.4～
- 4) 丸山征郎博士：鹿児島大学医学部・臨床検査医学教授
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- 5) 赤尾光昭博士：富山医科薬科大学薬学部・助教授
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- 6) 蔡少青博士, 王璐博士：北京大学薬学院教授(中国)
「栽培生薬と野生生薬の判別と同質性」1999.6～
- 7) 小曾戸洋博士：北里研究所東洋医学総合研究所・医史学研究部部长
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- 8) 北島勲博士：富山医科薬科大学医学部・臨床検査医学教授
「ステロイド瘀血, 骨粗鬆症を予防する漢方方剤」2001.4～2003.3
- 9) 唐方博士：天津医科大学教授(中国)
「漢方方剤の消化器薬理学的研究」2001.9～
- 10) 金東郁博士：国立木浦大学校生物産業学部 生薬資源専攻教授(韓国)
「擦過傷害後の血管内膜肥厚を予防する天然薬物の研究」2001.4～

◇学外活動・非常勤講師等

- 1) 谿忠人：(財)大阪漢方医学振興財団(理事)(1998.3～)

◇学会役員等

- 1) 谿忠人：和漢医薬学会 理事(2000.4～, 編集副委員長：2000.1～)
- 2) 谿忠人：日本生薬学会 評議員(2002.4～2004.3)
- 3) 谿忠人：東亜医学協会 評議員(2003.4～)

◇研究費取得状況

- 1) 平成15年度科学研究費補助金(特別研究員奨励費) Dr. Florian Rauchensteiner「環境保全を考慮したキャピラリー電気泳動法による生薬成分分析法の開発」
- 2) 平成15年度21世紀COEプログラム「東洋の知に立脚した個の医療の創生」(分担：谿忠人)「基盤研究：地球環境に配慮した薬用資源の開発と漢方薬学的評価」
- 3) 富山県薬業連合会受託研究(代表：谿忠人)「富山オリジナルブランド配置薬開発研究」
- 4) 平成15年度富山県受託研究「和漢薬・バイオテクノロジー研究」(分担：谿忠人)「冷えと痛みに対する和漢薬の探索」
- 5) 平成15年度富山県受託研究「漢方方剤「釣藤散」を中心にした生活習慣病の予防・治療に有効な伝統薬・天然医薬研究」(分担：谿忠人)「釣藤散, 防風通聖散および牛黄の動脈硬化予防作用」

◇研究室在籍者(2003年4月時点：職員2名+院生10名+学生2名+1名)

大学院薬学研究科後期3年：山本豊, 何菊秀

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- 前期1年 : 大野賢二, 後藤恵美, 永井秀昌
- 薬学部4年生 : 堂井美里: 国産大黃の開発を志向した国内系統保存種の基原に関する研究
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- 日本学術振興会特別研究員 (ポスドク) : Florian Rauchensteiner (2002.7~)
- 受託研究員 : 馬場達也 (大幸薬品) (2003.10~)

◇学位 (修士・博士) 取得者

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◇研究室来訪者

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- 2) 2003.10.13-14 : Prof. Purusotam Basnet (School of Pharmacy, Pokhara University, Nepal)
「Pokhara 大学における天然薬物研究」の打ち合わせ
- 3) 2003.10.27-28 : 金 東郁教授 (木浦大学校生物産業学部, 韓国)
「擦過傷害後の血管内膜肥厚を予防する天然薬物の研究」の打ち合わせ