J Chin Med 1 (1): 114-119, 1990

Screening of the Hypotensive Effect of Plants Used in Taiwan for The Treatment of Hypertension

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ABSTRACT

In an attempt to understand the effectiveness of plants that are popularly used to relief the hypertension in Taiwan, we investigated the actions of 14 plants by screening the changes of tail blood pressure in spontaneously hypertensive rats (SHR). Aqueous organic preparations (H_2O: Acetone = 1: 4) of each crude extracts were injected intraperitoneally into SHR. Then, maximal decrease of blood pressure recorded at every 10 min was compared to the pretreatment values. We found that the leaves of Melastoma candidum or Sapium sebiferum possessed a more marked hypotensive activity. Other plants screened in the present study also produce a significant antihypertensive action except the fruit of Schisandra chinesis. The obtained results confirmed the actual activity of these antihypertensive plants and encouraged us to attempt the purification of active substances.

Keywords: blood pressure, tail-cuff method, spontaneously hypertensive rat (SHR), crude extracts, antihypertensive plants, Taiwan

PROGRESS OF ORIENTAL MEDICINE Proceedings of
the Sixth International Congress of
Oriental Medicine, P. 107-112, 1990

Advance in Treatment for Hepatitis by Oriental Medicine-Developing a New Hepatitis Drug-Kan-Yen-01

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ABSTRACT

There are numerous of patients of liver disorder in the world. Hepatitis is one of the common disease in the Far East. It is mainly caused by virus but also produced by various chemicals such as ethanol, toxins in food (especially aflatoxin), peroxidized edible oil and pharmaceutics (certain antibiotics, chemotherapeutics, CNS-active drugs), enviromental pollutant etc. Asia is the highest infection area of hepatitis B virus in the world. More than 3 millions people are hepatitis B virus carriers in Taiwan. Unfortunately, however, modern medicine has no really effective remedy for hepatitis. Consequently, development of new drugs for hepatitis is now much demanded. In general, Chinese medicinal prescription have been used as practical remedy for disease by Chinese medical doctors and traditional herbal doctors in China for over 5,000 years. The therapeutic effects of Chinese medicinal prescriptions are different from most synthetic drugs due to their moderate activity and low toxicity.

Twenty six traditional Chinese medicinal prescriptions were claimed to be good for liver disorder by clinical doctors in Taiwan. So, the antihepatotoxic effects of the in vitro biological assays employed complement-mediated cytotoxicity in primary induced liver lesion on primary cultured rat hepatocytes and the in vivo biological assay employed carbon tetrachloride induced acute liver damage in mice. KAN-YEN-01 formula demonstrated the best remarkable antihepatotoxic activity. Furthermore, the basic research of chemical hepatotoxin induced liver damage protective activity of acute and chronic hepatotoxicity, hepatic fibrosis and cholangitis prevent etc.), liver generation, anti-duck B virus hepatitis in duck and immune response (antigen reaction, antibody inducer, T cell and its subpopulation in mice) were investigated.

The preliminary clinical study on HBeAg positive hepatitis was attempted to evaluate the therapeutic effects of KAN-YEN-01. All the selected patients were HBsAg (+), Anti-HBcIgM (−), and HBeAg (+). The serum GOT, GPT, gamma-GT of liver function, and HBV infection makers were measured in a given interval. The other hand, the level of T lymphocytes, helper T cell, suppressor/cytotoxic T cell and NK cell were determined by indirect immunofluorescence antibody technique. In view the results of KAN-YEN-01 indicated that not only has liver

damage protective effects and elevated the immunoregulation system in mice but also anti-B virus in duck. Furthermore, the chronic HBV carrier treated with KAN-YEN-01 that increased T lymphocyte population in peripheral blood and improvement of liver function in patient receiving KAN-YEN-01.

J Med Pharm Soc WAKAN-YAKU 7 (1); 28-34, 1990.

Systematic analysis of some Chinese medicinal prescriptions. 1. Antihepatotoxic principles of Ruytan-shakan-to

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ABSTRACT

Six different formulas of Ryutan-shakan-to were described in the original references of well known Chinese medical works. Chern-Shyn-Tzuen-Sheng-Shu (CSTSS) formula, a decoction of the mixture of Gentianae Scrabrae Radix, Bupleuri Radix, Gardeniae Fructus, Hocquartiae Caulis, Forsythiae Fructus, Coptidis Rhizoma, Rhei Rhizoma, Citrus Pericarpium, Paeoniae Radix Alba and Talcum, demonstrated the remarkable antihepatotoxic effect by the oral treatment on the liver damage induced by carbon tetrachloride (CCl_4) in mice. The systematic analysis of this formula was further investigated using CCl_4-induced liver injury. When each composed herbal drug was orally administered, the major antihepatotoxic components in CSTSS formula, were Hocquartiae Caulis, Coptidis Rhizoma, Rhei Rhizoma, Bupleuri Radix and Citrus Pericarpium. Among them, Bupleuri Radix and Citrus Pericarpium were essential components. In this experiment, Citrus Pericarpium showed the activity only when it was mixed with other compositions of herbal drugs. When the effect of known ingredients involved in each herbal drug was examined, berberine, hesperidin, saikosaponins, emodin, chrysophanol, oleanolic acid, and geniposide were antihepatotoxic. Furthermore, the combined use of some effective herbal drugs or principle constituents increased the antihepatotoxic activity relative to their single use. These results suggest the importance of the combination of plural herbal drugs in Chinese prescriptions.

Tetrahedron 40 (15); 5121-5126, 1990

Ampelopsins A. B. and C, New Oligostilbenes of Ampelopsis brevipedunculata VAR. Hancei

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ABSTRACT

Three novel oligostilbenes, ampelopsins A, B and C, have been isolated from Ampelopsis brevipedunculata var. hancei, and their structures were determined by means of spectroscopic evidence.

Chinese Pharm J 42 (1); 1-9, 1990

Studies on the Chemical Constituents of Formosan Plants

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ABSTRACT

More than thirty years in studying the Chinese folk medicine, we have aimed at the chemical constituents of Formosan plants and completed the following experiments:

(1) **Isolation of coumarin from Umbelliferous plants (tan-kuei, tu-huo, qian-hu, bai-zhi etc.) and application of coumarin to chemotaxonomy of these plants.**

(2) **Isolation and identification of phytosterols from root of Citrus genus.**

(3) **Isolation of bisflavonoids from Garcinio genus.**

(4) **Investigation of phytoecdysone of fern and isolation of the constituents of Diplazium donianum, Plenasium banksiaefolium and Bolbitis subcordata.**

(5) **Isolation of hepatoprotective compounds from Aeginetia indica, Salria plebeia, Wedelia chinensis, Liquidambar formosana, Eucolyptus robusta, Polygonum cuspidotum, Ampelopsis brevipedunculata and Viscum alniformosanae.**

Phytotherapy Research 4 (1); 36-38, 1990

Antihepatotoxic Actions of Traditional Chinese Medicines. 2. The Pharmacological Interaction of Components of Dai-saiko-to Employing Complement-mediated Cytotoxicity in Primary Cultured Mouse Hepatocytes

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ABSTRACT

Antihepatotoxic activities of the components of a traditional Chinese prescription, Dai-saiko-to, were examined employing complement-mediated cytotoxicity in primary cultured mouse hepatocytes. Buplcuri Radix and Scutcllariac Radix were shown to be active in this system but did not reach the levels of activity of the prescription. In combination, Buplcuri Radix-Scutellariac Radix, Buplcuri Radix-Zingiberis Rhizomo, Scutellariac Radix-Pinclliae Tuber and Bujplcuri Radix-Zingiberis Rhizoma, exhibited effects comparable to the original prescription. It was therefore concluded that the antihepatotoxic activity of Dai-saiko-to is due to the pharmacological interactions of their constituents. In addition, a difference in antihepatotoxic activity of Buplcuri Radix and Aurantii Frucius Immaturus was observed between their water extracts and 50% aqueous ethanol extracts, indicating that active principles in each extract of the prescription seemed to be different and, therefore, the method of extraction was an important factor in the clinical use of Dai-saiko-to.

Chin Med J (Taipei) 45: 241-5, 1990.

Efficacy of Niclosamide against Aboriginal Taeniasis in Taiwan

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ABSTRACT

The present field trial attempts to test the efficacy of niclosamide by a modified chemotherapeutic schedule to collect the purged stool samples consectively to search expelled worms. Nineteen patients with taeniasis were given 1 gm of niclosmaide with 3 gm sodium bicarbonate twice at 30-minute interval, then purgative was administered. The patients were allowed only fluid meal or fruit juice before treatment. In all, 33 worms (11 with scolex, 22 without), 17 strobilae and 247 segments were collected from consecutive purged stools. The scolex recovery rate was 33%. After taking the purgative, 5 female patients showed side-reactions (nausea, vomiting and dizziness) which were mild and transient. Two months after the treatment, 14 patients were still passing strobilae and/or proglottides in the stools but 5 were not. Four months after the treatment, only 3 cases were still passing strobilae and/or segments in the stools showing a cure rate of 84.2%. The results indicate that niclosamide is a good taenicide but with a slow effect.

Keywords: niclosamide, taenicide, Taenia saginata, Taiwan Taenia, cysticerci, rudimentary-hooklets

Kaohsiung J Med Sci 6: 66-72, 1990.

Studies on Taeniasis in Taiwan
XII. Prevalence of Taeniasis among Atayal Aborigines in Wufeng District, Hsinchu County, Northwest Taiwan

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ABSTRACT

In order to determine the prevalence of taeniasis in the Wufeng District of Hsinchu County, 341 school children from 2 primary schools and 748 Atayal aborigines from 4 villages were examined with a scotch tape perianal swab and by questionnaire and demonstation of proglottides. The infection rates of taeniasis and enterobiasis among the school children were 1% and 8%, respectively. The overall infection rate of taeniasis among the Atayal aborigines was 6%, and 189 previously treated and cured persons were also discovered. The highest rate was found at Taoshan Village (9%) and the lowest at Chulin Village (3%). The infection increased with age from <1% among those under 10 years of age to a peak of 11% for those over 50 years. The infection rate in males (7%) was similar to that in females (6%). Fourteen percent (43/305) of the families were found with one (91%) or two (9%) infected members. The infected persons had been eating raw meat and viscera of wild boar (70%), flying squirrel (65%), muntjac (58%), wild goat (56%) and the raw meat of other 6 kinds of wild animals. Passing proglottides in the feces (100%) and pruritis ani (91%) were the two most important clinical manifestations. One-third (33%) of the patients had passed proglottides for 21-30 years.

Key words: Taeniasis, Atayal aborigines, Wufeng district.

Kaohsiung J Med Sei 6: 475-482, 1990.

Prevalence of Taeniasis and Enterobiasis among Aboriginal Children in Mountainous Areas of Taiwan

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ABSTRACT

Children numbering 6,197 were tested for taeniasis. Those children were examined from May, 1981 to July, 1989. Sixty one primary schools, in eight mountainous districts provided the test group of children. The method used in these tests was the Scotch tape perianal swab. The overall infection rate of taeniasis was 1%. A total of 6,667 children were also examined for enterobiasis and the infection rate was 10%. There was no significant difference in the rate of taeniasis and enterobiasis by sex. The infection of taeniasis was highest in Tatung District (3%), Ilan County. However, there was no significant difference among the rates by district. The prevalence of enterobiasis was highest in Jenai District (17%), Nantou County and lowest in Lanyu District (2%), Taitung County. Taeniasis was not found among non-aboriginal school children, while 3% of aboriginal school children were infected with Taenia. However, the infection rate of Enterobius vermicularis among non-aborigines (39%) was much higher than that among aborginal children (5). These findings indicate that aboriginal children still eat raw meat and viscera of wild animals and acquire Taenia infection.

Key words: Taeniasis, enterobiasis, aborigines.

Chin J Parasitology 3: 13-18, 1990.

Study of Taeniasis in Taiwan XIII. Taeniasis among Aborigines in Jen-Ai District, Nan-Tou County

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ABSTRACT

A study of taeniasis among aborigines in Jen-ai district, Nan-tou county, was conducted from August 1988 to July 1989. The overall infection rate as determined by questionnaire and exhibition of proglottides among 4,349 aborigines was 5%. The infection rate increased with age and reached peaks of 11% in both the 41-50 and over 70 years age groups. The infection rate in males (6%) was significantly higher than that the females (3%). Of 156 infected families, 37% had more than one infected member. The infection rates were similar among Atayal (4.7%) and Bunun aborigines (3.7%). Twenty-nine per cent of infected persons passed proglottides for 1-3 years and only 1% for over 30 years. The consumption of raw meat or viscera of wild animals was still practised. Among the 197 infected persons, 75% ate wild boar, 74% ate flying squirrel, 73% ate wild goat. Eleven other kinds of animals were also eaten. The most frequent clinical manifestations experienced were discharge of proglottides with the feces (90%) and pruritis ani (77%).

Key words: taeniasis, Atayal and Bunun aborigines, Taiwan.

J Helminthology 64; 223-231, 1990.

The pig as an intermediate host for Taiwan Taenia infection

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ABSTRACT

Eggs (1000-100,000/animal) of Taiwan Taenia were inoculated per os into 14 Small-Ear-Miniature (SEM), 19 Landrace-Small-Ear-Miniature (L-SEM), and 5 Duroc-Yorkshire-Landrace (DYL) pigs. These animals were sacrificed 7-107 days after infection. Thirty-four pigs were found to be infected with Taiwan Taenia cysticerci and the infection rates of SEM, L-SEM, and DYL were 86%, 89% and 100% respectively. The cysticerci recovery rates of SEM, L-SEM and DYL pigs were 27.2%, 1.7% and 0.27% respectively. Cysticerci were recovered only from the livers and none were found in muscles, viscera or other parts of the carcasses. More cysticerci were located in the liver parenchyma (71%) than on the liver surface (29%). Taiwan Taenia cysticerci were smaller than those of classical T. saginata or T. solium. Moreover, Taiwan Taenia cysticerci had 2 rows of rudimentary hooklets on the scolex. The results of this study indicate that young pigs are good intermediate hosts for Taiwan Taenia and that the SEM pig is a satisfactory host for experimental studies with this tapeworm. These results were similar to other studies with different geographic strains of the T. saginata-like tapeworm in the Far East. These strains appear to be the same and possibly a new species.

KEY WORDS: Cysticercus, morphology, rostellum. Taenia, pig, Taiwan

International J Parasitology 20 (1); 121-123, 1990.

Experimental Infection of Thailand Taenia (Chiengmai Strain) in Domestic Animals

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ABSTRACT

Twentyfive gravid proglottides of a Thailand Taenia were obtained from a patient in Chiengmai, Thailand and brought to our laboratory. The tapeworm was determined to be T. saginata-like by counting uterine branches (mean number 16, range 12-19 on each side). The eggs from these proglottides remained infective under storage at room temperature for 14 days followed by refrigeration (4-8°C) for 131 days. Eight Small-Ear-Miniature pigs and two Holstein calves were each fed with 3000 eggs and sacrificed 12-76 days afterwards. Six pigs became infected and 16 cysticerci were recovered from the livers. Thirteen degenerated calcified cysticerci were also recovered from the livers of the two calves. More cysticerci were found in the liver parenchyma (55%) than on the liver surface (45%) of the infected animals. Measurements of length. width, diameters of protoscolex, rostellum and sucker and hooklet pattern show that Thailand Taenia is similar to Taenia from Taiwan, Korea and Indonesia but different from T. saginata and T. solium. These findings indicate that Thailand Taenia, Taiwan Taenia, Korea Taenia. and Indonesia Taenia may by of the same species or sub-species.

INDEX KEY WORDS: Cysticercus; rostellum; rudimentary rostellar hooklet; Taenia; Thailand.

Chin J Parasitology, 3: 93-95, 1990

The Effect of Fasting on the Treatment of Taeniasis

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概要

空腹對 **Atabrine** 治療條蟲病之影響——范秉眞、鍾文政、林君勇、吳金正——應用 **Atabrine** 治療條蟲病，一般考慮空腹者療效較未空腹者爲高。爲證實此點，選擇空腹及未空腹條蟲患者各 **17** 位，分別服用 **Atabrine** 及瀉劑。利用編號塑膠袋連續收集瀉便直至最後兩袋爲陰性。分別檢查及統計 **17** 位空腹者共檢出 **26** 蟲**(24** 蟲有頭節、**2** 蟲無**)**，**7** 蟲體及 **105** 節片，另 **17** 位未空腹者共檢出 **19** 蟲**(11** 有頭節、**8** 蟲無**)**，**8** 蟲體及 **178** 節片。在比較上，前者頭節之收獲率**(92%)**顯高於後者。由此可知以 **Atabrine** 治療條蟲病時，空腹爲一極重要之因素。

Proceedings of Asian-Pacific Congress for Parasitic Zoonoses,
Sendai, Japan, July 20-22, 1990, p.37-43

Epidemiology of Taenia Saginata-Like Tapeworm Infection In Asia Probably Caused A New Species

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ABSTRACT

Taeniasis is very important public health problem in East Asian countries. Fan (1983) estimated that 17% of the aborigines in mountainous areas of Taiwan were infected with Taiwan Taenia. Seo et al. (1969) found that 0.7% of 40,581 Korean were positive for taeniasis in a nationwide evaluation of intestinal helminthic infection and taeniasis was highly prevalent on Cheju Island. Kosin et al. (1972) reported that Taenia eggs and proglottides similar to T. saginata were found in 9.5% of 285 subjects from Samosir Island, North Sumatra, Indonesia. In Thailand, Vajrasthira and Harinasuta (1957) reported 2.5% of 263,703 persons being positive for taeniasis. Although, people in this part of the world eat more raw and/or undercooked meat and viscera of pigs than that of cattle and Cysticercus cellulosae was frequently found (Cho et al., 1967; Koshin et al., 1971; Arambulo et al., 1976; Kim, 1985), Taenia saginata is reported to be dominant species and T. solium less frequently seen in this part of the world. Furthermore, there is some questions as to identity of T. saginatalike tapeworm infection. The present study was designed to study the epidemiology of taeniasis in mountainous areas of Taiwan, Cheju Island of Korea, and Samosir Island in Northern Sumatra of Indonesia. In addition, the clinical manifestations and eating habits of the people were also studied.

Proceedings of Asian-Pacific Congress for Parasitic Zoonoses,
Sendai, Japan, July 20-22, 1990. p. 44-47

Taeniasis Among Atayal Aborigines In Taiwan

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ABSTRACT

Since the frist report of taeniasis by Oi in 1915, the infection rates among the Atayal aborigines have been reported to range from 0.7% to 36.8%. In this paper, we present the results of surveys on intestinal helminthic infections and taeniasis among aboriginal school children in Wufeng District, Hsinchu County; Jenai District, Nantou County; and Wanyung District, Hualien County; and aborigines in Jenai District, Nantou County; and Fushin District, Taoyuan County. Moreover, the local names of Taenia in different areas were also reported. Ova of 7 species of intestinal helminths were found in the stool specimen from the school children. The prevalence of Ascaris lumbricoides, Trichuris trichiura, hookworms, and Taenia reduced dramatically during the past 15 years. The infection rates of taeniasis in Wufeng, Jenai, and Wanyung were 9.3%, 3.9%, and 0.6%, respectively. Among 517 aborigines in Jenai, six species of intestinal helminths were found. The infection rate of taeniasis was 21.3%. Among 2,055 aborigines in Taoyuan, 10. 3% were found to be infected with Taenia. Local names of Taenia and Ascaris in Atayal language have the meanings of "noodles" and "earthworm".

Bulletin of the VII International Congress of Parasitology, 20-24 August, 1990, Paris, France, Supplement 2: 892

Pig As A Favorable Intermediate Host for A Possible New Species of Taenia In Asia

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ABSTRACT

Although people in the Asian countries eat more raw and/or undercooked meat and viscera of pigs than cattle, Taenia saginata has been reported to be the dominate species and Cysticercus cellulosae in pigs has been found more often than Cysticercus bovis in cattle. In order to explain this special epidemiological phenomenon, eggs of the T. saginata-like tapeworms from Taiwan, Korea, Indonesia, and Thailand were inoculated to different kinds of domestic and wild animals and succeeful experiments in infecting pigs, calf, goat, and monkey with Taiwan Taenia (mature cysticerci only found in pigs and calf); pigs, calf, and goat with Korea Taenia (mature cysticerci only found in pigs); pigs and calf with Thailand Taenia (mature cysticerci only found in pigs); and pigs with Indonesia Taenia. All rudimentary-hooklet-cysterci were recovered only from the liver of these animals except a few cysticerci in the omentum of two pigs. Moreover, one wild boar on Taiwan Proper and six domestic pigs on Lanyu Island were also found naturally infected with rudimentary-hooklet-cysticerci in their livers. Therefore, pig is the most favorable intermediate host of these T. saginata-tapeworms. Moreover, these cysticerci have 2 rows of rudimentary hooklets, shorter developmental period, and smaller size than those of T. saginata and T. solium. These results indicate that pig is also the most important intermediate host in the endemic areas of the above countries and these four Asian strains of Taenia are very similar but very different from both T. saginata and T. solium. Recently, differences between Taiwan Taenia and African T. saginata have been identified in the molecular level by the DNA analysis. From the special epidemiological pattern and the experimental results, we suggest that the T. saginata-like tapeworm in Asian may be of the same new species.

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Supplement 2: 1008

A Simple Technique for Determination of Worm Load of Taenia Infection

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ABSTRACT

Taenia infections are generally believed to consist of a single worm. Recently, surveys on Taenia infection among aborigines in 9 mountainous areas of Taiwan indicate that 33% of the patients harbored 2-24 worms. For certain infectivity and clinical phenomenon of the cases of taeniasis, it is important to determine the worm load. However, the number of gravid proglottides expelled daily range from 1 to 5 and the number of eggs in each gravid proglottide or in the stool is also very irregular. A simple technique for the determination of worm load in the field was, therefore, devised and applied. Nothing but fruit juice or warm water was allowed for the patients in the morning. A total dose of 1.0 gm (for females) or 1.2 gm (for males) atabrine was administered to 17 cases in 2 divided doses at 30-minute interval with 3 gm sodium bicarbonate. Saline purgative of 25 magnesium sulfate was given with 300-500 ml water 1.5 hours after the second dose. Purged stool samples from each patient were collected consecutively in labeled transparent plastic bags (45 × 50 cm) until 2 samples without proglottides. Stool samples were washed several times, then worms, strobilae, and segments were examined with naked eye immediately. The numbers of worms with or without scolex, strobilae, and segments in each of bags were counted and recorded separately. The first stool sample was obtainable within a few minutes after the purgative was given and the last sample within I hour. Worms, strobilae, and segments were most frequently seen in the second sample and complete worms were still collected even in the fourth sample. The results demonstrated that each patient had 1.5 worms on the average (ranged from 1-6 worms), the scolex recovery rate was 92%. This method is simple, rapid, accurate, practical, and cheap for use on Taenia infections, since it can be widely applied in field situations without microscope and counting equipment.

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Evaluation of Efficacy of Albendazole against Human Taeniasis by Re-treatment with Atabrine

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ABSTRACT

Albendazole is known to be a highly effective broad spectrum anthelmintic and can be given at high dosages without severe side-effects. In addition, the drug shows considerable promise for public health programs concerned with the control and eradication of intestinal nematodiasis. It also has high activity against trematode infections and hydatid diseases. Recently, it has been reported to be highly effective in the treatment against Taenia saginata and Taenia solium infections. In order to evaluate the efficacy of albendazole against human taeniasis, a dose of 400 mg × 1 day, 800 mg × 2 days, 800 × 3 days, 1,200 mg × 2 days, or 1,200 mg × 3 days was given to 54, 10, 20, 10, 10, and 12 patients, respectively. After the treatment, 5 cases reported with abdominal discomfort, dizziness, and/or headache which were mild and transient. Of 76 cases inquired 7-14 days after treatment, 58 were still expelling proglottides and 18 did not notice. Three months later, 73 cases were retreated with atabrine 1.2 gm/case for males, 1.0 gm/case for females. Twentysix expelled 44 worms (27 with scolex, 17 without) and 31 patients expelled strobilae and/or segments but none were expelled from the other 9 patients. The 9 negatives represent the number cured by the treatment with albendazole. Thus, the cure rates with albenazole for various regimens were 50% for 800 mg × 3 days, 1,200 mg × 2 days, and 1,200 mg × 3 days; 14.3% for 800 mg × 2 days; and 0% for 400 mg × 1 days, and 800 mg × 1 day. These therapeutic results disagree with previous reports. Therefore, albendazole is not highly effective against taeniasis.

Prostaglandins Leukotrienes and Essential Fatty Acids (1991) 44, 51-56

Inhibition of Platelet Activation and Endothelial Cell Injury by Flavan-3-ol and Saikosaponin Compounds.

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ABSTRACT

The effects of flavan-3-ol and saikosaponin compounds on platelet aggregation, platelet thromboxane biosynthesis and H_2O_2-induced endothelial cell injury were studied. Seven flavan-3-ol compounds isolated from Camellia sinensis L. var sinensis O. Kuntze (Theaceae) and three saikosaponin compounds isolated from Bupleurum falcatum L. (Umbelliferae) were used. Among the 10 compounds tested, only epigallocatechin and saikosaponin a significantly inhibited human platelet aggrepation induced by ADP, and the potency of inhibition was comparable with aspirin. Both of epigallocatechin and saikosaponin a dose-dependently inhibited the platelet thromboxane formation from exogenous and endogenous arachidonic acid. In the prevention of H_2O_2-induced endothelial cell injury in culture, only gallocatechin-3-0-gallate and epicatechin-3-0-gallate were effective. The inhibitory effect of epigallocatechin and saikosaponin a on platelet activation and the cytoprotective effect of gallocatechin-3-0-gallate and epicatechin-3-0-gallate on H_2O_2-induced endothelial cell injury could give evidence of explaining the possible role of flavan-3-ol and saikosaponin compounds in maintaining vascular homeostasis.

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The Evaluation of Saikosaponins from Bupleurum Falcatum L. Cultivated in Taiwan

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ABSTRACT

The saikosaponins of Bupleurum falcatum L. cultivated in Taiwan were isolated and identified in this study. The distribution of these saponins in whole plant and its seasonal variation were analyzed by high performance liquid chromatography (HPLC). The total contents of saikosaponins a, c and d were in the order of root, leaf and stem with a ratio of 2.6: 2.0: 1.0. Usually, the part of B. falcatum used in Chinese medicine is root. However, the stem and leaf had high contents of saikosaponin c and d, which may possible be useful for medicinal resources. Among many kinds of Bupleuri Radix on the market; B. falcatum has the highest saikosaponin contents and B. kaoi, a native species of Taiwan, is the second one.

Key words: Bupleurum falcatum; Saikosaponin; Bupleuri Radix; Umbelliferae.

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Studies on the Tannins from Euphoria longana Lam

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ABSTRACT

This work reports a systematic study of the tannin components in Formosan plants. Two novel hydrolyzable tannins, acetonylgeraniin A (1) and acetonylgeraniin B (2) together with gallic acid (3), corilagin (4) and cheubulagic acid (5), have been isolated from the seed of Euphoria longana Lam. (sapindaceae). In addition, from the fresh bark of the same plant, (-)-epicatechin (6), procyanidin B-2 (7) and procyanidin C-1 (8) were isolated. On the basis of spectroscopic and chemical evidence, acetonylgeraniin A and acetonylgeraniin B have a acetonyl group which is attached to the C-5 position of the dehydrohexahydroxyldiphenoyl moiety with α-and β-form, respectively. It is interesting to note that the tannins distributed in seeds are of the hydrolyzable type, while the bark mainly contains the condensed type.

Keywords: tannin, Euphoria longana, sapindaceae, acetonylgeraniin

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The Effect of Hydrolyzable Tannins on Cardiac Adrenoceptors

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ABSTRACT

In an attempt to understand the effects of natural products on cardiac adrenoceptors, four hydrolyzable tannins were investigated through receptor binding assay. Corilagin was extracted from the seeds of Euphoria longana Lam. (Sapindaceae), and geraniin was isolated from the leaves of Terninalia catappa L. (Combretaceae). Fonringin and 6-O-galloyl-D-glucose, the gallotannins, were purified from the leaves of Sapium sebiferum (Euphorbiaceae). In test, the four tannins did not displace the specific bindings of [^{3}H] dihydroalprenolol, one of the radioligands for β-adrenoceptors, in cardiac membranes of rats. At higher concentration, fonringin and 6-O-galloyl-D-glucose decreased the beating activity of isolated atria in both spontaneous and stimulant-induced response. The negative chronotropic action of the gallotannins was not influenced by antagonists, thus indicating an absence of receptor-mediated actions. Because pertussis toxin failed to reverse inhibition, the participation of Gi protein was ruled out. However, ellagitannins (corilagin and geraniin) did not produce similar depressive effects even at higher concentrations. Gallotannins are thus considered more toxic to the heart than ellagitannins.

KEYWORDS Hydrolyzable tannins, cardiac adrenoceptors.

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維生素 A 中毒及肝微粒體酵素系統於維生素 A 代謝上所扮演之角色

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摘要

維生素 A 對於哺乳動物而言是非常重要的營養素，在維持正常視覺、黏膜細胞之完整性、細胞之分化、生長及發育上均扮演重要的角色。近年來，常用高劑量的維生素 A 來治療乾眼症、生殖能力不全症、各種皮膚疾等。但服用高劑量之維生素 A 會造成肝中毒，此外，老鼠於懷孕期間服用過量之維生素 A 時，會造成型態上或行爲上的畸型。於人類的案例報告中亦發現，母親於懷孕時服用高劑量的維生素 A 時，會造成先天性的功能不全或畸型。近年來之研究發現，兩種維生素 A 之化合物－視網醇(retinol)及視網酸(retinoic acid)，可經動物肝微粒體中之藥物代謝酵素系統 cytochrome P-450 system 代謝，且生成較具極性之代謝物 4-hydroxy-retinol, 4-hydroxy-retinoic acid, 4-oxo-retinoic acid 等。其中以稱爲 P450 II C8 (於人類)或 P450-II C7(於老鼠)之同功酶具有最高之代謝活性。一般情形下，此同功酶於肝微粒體中之活性低，且可經由維生素 A、酒精或其他藥物之誘發後增加。所以，可以進一步地證實，Cytochrome P-450 酵素系統不僅在藥物、環境毒物之代謝上具有重要性，於一般生理代謝途徑(例如維生素 A 代謝)上可能亦扮演著重要的角色。

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Poor Efficacy of Albendazole for the Treatment of Human Taeniasis

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ABSTRACT

In order to evaluate the efficacy of albendazole for the treatment of taeniasis, regimens of 400 mg × 1 day, 800 mg × 1 day, 800 mg × 2 days, 800 mg × 3 days, 1200 mg × 2 days, 1200 mg × 2 days, and 1200 mg × 3 days were compared. Of 66 cases treated and investigated 7-14 days after treatment, 52 were still expelling proglottids. Three months posttreatment, these cases were re-treated with atabrine at 1.2 g per case for males and 1.0 g per case for females. Fifty-seven patients expelled worms or parts of tapeworms. The nine negatives may represent the number cured by the treatment with albendazole. The cure rates with albendazole for various regimens were up to 50% for 800 mg × 3 days, 1200 mg × 2 days or 1200 mg × 3 days, 14.3% for 800 mg × 2 days, and 0% for 400 mg × 1 day or 800 mg × 1 day. This study shows that albendazole is not very effective in the treatment for taeniasis.

INDEX KEY WORDS: Albendazole; taeniasis; re-treatment; atabrine.

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Evaluation of Enterobiasis Control by Mebendazole among Preschool Children in Hua-Lien County, East Taiwan

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ABSTRACT

From January to July 1991, 3,327 preschool children from 17 kindergartens in Hua-lien City and Chi-an and Hsin-Cheng districts of Hua-lien County were examined by scotch-tape perianal swab and treated twice with 10 mg mebendazole. Efficacy of the control was evaluated by follow up examinations conducted 8, 10 or 12 weeks after the second treatment. The subjects were divided into three groups: treatment administered only to 233 positive children (1,202), to all children (1,021), and to all children and their families (1,104). The overall infection before the control was 17.2% (571/327). The infection rates for each group were 19.4% 15.8%, and 16.0%, respectively. The overall infection after the second treatment was 11. 7%. The infection rates for each group were 14.7%, 9.6%, and 10.4%, respectively. The results indicated that the cure rate for the first group was much lower than the other two groups.

Key words: Enterobiasis, mebendazole.

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Present Status of Head Louse (Pediculus Capitis) Infestation among School Children in Yunlin County, Taiwan

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ABSTRACT

In December 1990, 35 children in one kindergarten; 7,870 children in twenty-six primary schools and 2,657 students in three junior high schools in Kou-Hu, Ku-Keng and Szu-Hu Districts in Yunlin County, Taiwan, were examined by naked eye observation (NEO) for head louse infestation. The overall infestation rate was 16%. The infestation rate was highest in Kou-Hu (25%) and lowest in Ku-Keng (8%). The rate was higher among primary school children (21%) than among junior high school students (2%). The infestation rate of girls (34% in primary school children and 4% in junior high school students) was higher than that of boys (9%, <1% respectively). Among the primary school children the rate was highest in girls in grade 5 (39%) and boys in grade 4 (14%). The lowest rates were in girls in grade 6 (27%) and in boys in grades 5 and 6 (6%). In junior high school students, the rate of grade 1 (4%) was higher than those of grade 2 (<1%) and 3 (<1%).

Key words: head louse infestation, primary school children, junior high school students.