Histopathology and Biochemistry Analysis in a 28-day Subacute Toxicological Assessment of Antrodia Cinnamomea in BALB/c Mice

Ming-Fang Wu1*, Mei-Hui Lee2*, Shau-Yen Huang3, Jia-You Liu1, Ming-Teng Chung5, Chuan-Hsun Chang6,7, Man-Kuan Au8, Nien-Chieh Liao4, Shu-Ching Hsueh4, Hsu-Feng Lu3,4

1National Taiwan University College of Medicine, Animal Medicine Center, Taipei, 2Department of Genetic Counseling Center, Changhua Christian Hospital, Changhua, 3Department of Restaurant, Hotel and Institutional Management, Fu-Jen Catholic University, Taipei, 4Department of Clinical Pathology, 5Anatomical Pathology, 6Surgical Oncology, 7Nutrition Therapy, 8Orthopaedics, Cheng Hsin General Hospital, Taipei; 9School of Nutrition and Health Sciences, Taipei Medical University, Taipei; Taiwan

Objective: Non-prescriptional use of medicinal herbs is highly prevalent to treat abdominal pain, hypertension and hepatocellular carcinoma in Taiwan and increasing worldwide. Among them, Antrodia cinnamomea was the most famous modalities being consumed especially among Oriental. Since the use of Antrodia cinnamomea in herbal medicines is increased, toxicity studies are warranted to confirm the safe use of Antrodia cinnamomea. Based on the 28-day subacute oral toxicity studies of Antrodia cinnamomea extract in male and female BALB/c mice, the extract at doses of 16.7, 833.3, and 1666.7mg/kg/day were administered by oral gavage to groups of mice (10 mice/dose) for 28 consecutive days and sterile water was used as control. All animals survived to the end of the study. No significant differences were found in hematology and serum biochemistry parameters among the control and treatment groups. Further histological examination in liver, kidney and spleen showed no pathological changes among all groups. These results suggest that the no-observed-adverse-effect level (NOAEL) of the extract for male and female mice is considered to be 1666.7 mg/kg/day.

Key words: