Risk Assessment of the Bioproduct of *Anoectochilus formosanus* Hayata

I. Acute Toxicity of the Taiwan Jin-Yuan Wine in Rats

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**Abstract**


Ethanol extracts of *Anoectochilus formosanus* Hayata (AF) have been known to protect liver injury, ease pain, diuretic, decrease hyperglycemia and hypertension. However, the safety of AF extracts along or in combination with other materials, such as Taiwan Jin-Yuan wine, is still needed to elucidate before marketing. The objective of this study was conducted to evaluate the acute oral toxicity of Taiwan Jin-Yuan wine in Sprague Dawely (SD) rats. Rats were single given with Taiwan Jin-Yuan wine at a limited dose of 5 g/kg body weight and consecutively observed for 14 days. Results revealed no poison symptom or death in the control and treated rats. The acute oral LD\(_{50}\) of Taiwan Jin-Yuan wine inferred greater than 5 g/kg body weight in rats. No significant changes of body weight at intervals on day 0, 7 and 14 post-treatment. The hematological parameters of white and red blood cell counts, hemoglobin, hematocrit, mean corpuscular volume, mean corpuscular hemoglobin, mean corpuscular hemoglobin concentration, platelets and white blood differentiation were normal. Furthermore, serum biochemistry showed no alteration in liver and renal function of aspartate aminotransferase, alanine aminotransferase, blood urea nitrogen and creatinine. The organ weights of brain, heart, liver, kidney, spleen, adrenal, testis and ovary had no significant changes between control and treatment groups. No gross and histopathological changes of rats after treated with Jin-Yuan wine was found in the acute oral toxicity test. This study concludes that there are no harmful effects on rats fed orally with AF-containing Taiwan Jin-Yuan wine at a daily dose of 5 g/kg body weight for 14 days.

**Key words:** Acute oral toxicity test, *Anoectochilus formosanus* Hayata, Medicinal herb, Rat, Risk assessment.

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