

Improvement of hematological action of Korean Cham-Dang-Gui (*Angelica Gigantis Radix*) against adverse effects of cyclophosphamide

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Abstract

Cyclophosphamide(CYP), an alkylating agent is a broad spectrum anti-cancer drug, was intraperitoneally injected into experimental groups, negative and positive group to induce bone marrow suppression. Cham-Dang-Gui has been used in traditional Korean medicine to treat hematologic deficiencies. The purpose of this study is to evaluate the feasibility of supportive treatment with Cham-Dang-Gui (*Angelicae Gigantis Radix*) against the adverse effects of cyclophosphamide (CYP). Rats were divided into five groups: CON (normal group), ANS (CYP-injected and normal diet group), AND (CYP-injected and normal diet and Cham-Dang-Gui-treated group), ALS (CYP-injected and low iron diet group), and ALD (CYP-injected and low iron diet and Cham-Dang-Gui -treated group). CYP (30mg/kg) was intraperitoneally injected to rats for 3 days. Saline or Cham-Dang-Gui was administrated orally for entire experimental period. CYP injection group (ANS, AND, ALS, ALD) decreased body weight in comparison with CON group. Compared to ANS group, oral administration of Cham-Dang-Gui in AND groupsignificantly prevented the body weight loss. The level of hemoglobin level, iron status parameters (serum iron, transferrin, ferritin and TIBC) and vitamin B-12 in groups of AND and ALD was higher than those of groups of ANS and ALS. Taken together, we suggest that intake of Cham-Dang-Gui can prevent CYP induced anemia by

improving hematological value, iron status and vitamin B12 status. Also, water extract of Cham-Dang-Gui can be useful for function materials to reduce the oxidation of lipids and protein induced by free radicals.

Reference

1. J. FEUSNER, C. HASTINGS. Recombinant human erythropoietin in pediatric oncology: a review.(2002) *Med Pediatr Oncol* 39(4),463-468.