

**【P2-7】****Effect of Deer Antler Drink on Lymphocyte DNA Damage and Blood Glucose Level in Diabetic Patients**Yoo Kyoung PARK<sup>\*</sup>, Hae-Young KIM, Myung-Hee KANG

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Deer Antler has been known for its traditional oriental medicinal properties and has been widely used to promote growth, boost immune function, treat blood loss and chronic joint pain. Recent study showed imported (New Zealand) Deer Antler was beneficial in reducing the side effects of cancer treatments. However, there was no intervention study conducted on the effect of Korean Deer Antler on reducing the oxidative stress to patients with diabetes. One of the sensitive ways to measure endogenous oxidative stress is by measuring cellular DNA damage using single cell gel electrophoresis (COMET assay). This study was conducted to investigate the possible beneficial effect of commercial Deer Antler drink (provided by Chung-yang Deer Farm) on lymphocyte DNA damage and blood glucose of diabetic patients. Eleven patients (5 male, 6 female) participated in the study and consumed 2 pouches of Deer Antler drink every day for 20 days. Blood was collected on the morning before and after the intervention for lymphocyte isolation and blood glucose analysis. After the intervention, significant reductions were noted in the cellular DNA damage, expressed as tail length (TL) and tail moment (TM; tail length  $\times$  percent tail DNA). Over 50% reduction was observed in TL (before:  $91.3 \pm 2.7 \mu\text{m}$  vs. after:  $42.1 \pm 2.1 \mu\text{m}$ ,  $p < 0.000$ ), and TM was also significantly reduced after the study (before:  $35.9 \pm 2.01$  vs. after:  $27.6 \pm 2.11$ ,  $p < 0.05$ ). Both systolic and diastolic blood pressure showed a tendency to decrease but did not reach statistical significance. Blood glucose level were not affected by the supplementation. Although we did not obtain beneficial effect on lowering blood glucose levels in the patients, this results suggest that Deer Antler may initially act in protecting endogenous DNA damage in short-term experiment.