P3-75

Anti-obesity Effect of Aurantii Nobilis Pericarpium Extract in OLETF Rats

Department of Medicinal Crop Research Institute, National Institute of Horticultural & Herbal Science, Rural Development Administration, Eumseong 369-873, Republic of Korea

Sang-Won Lee, Young-Ock Kim, Hyung-Don Kim, Sang-Hyun Sohn, Seung-Yu Kim

Objectives

To investigate effects of the water extract of Aurantii Nobilis Pericarpium (ANP) on glucose uptake and lipid metabolism of Otsuka‐Long‐Evans‐Tokushima Fatty (OLETF) rats.

Materials and Methods

- ANP was treated to investigate the inhibitory effect on the pre-adipocyte 3T3-L1 differentiation.
- Male OLETF rats were divided into three groups : normal, ANP(200 mg/kg) treatment, and caffeine(0.05% of body weight) treatment and fed for 13 weeks.
- LETO rats were used as a control group (LETO).
- The measurements have been performed on ; the weight ; the quantity of AST, ALT, cholesterol, triglyceride.
- Adipocyte cell area was measured from subcutaneous adipose tissue.

Results

- ANP decreased with the significance the body weight change and the size of the adipocytes was significantly decreased compared to those of the normal OLETF rats.
- ANP decreased the blood level of serum ALT, AST, total cholesterol, LDL-cholesterol and trigriceride, total protein and albumin in OLETF rats.
- From these results, we can suggest the possibility that ANP can be used as a food ingredient or drug component to therapeutically control obesity.

Corresponding author : Sang-Won Lee E-mail : swlee1004@korea.kr : Tel ; 043-871-5611
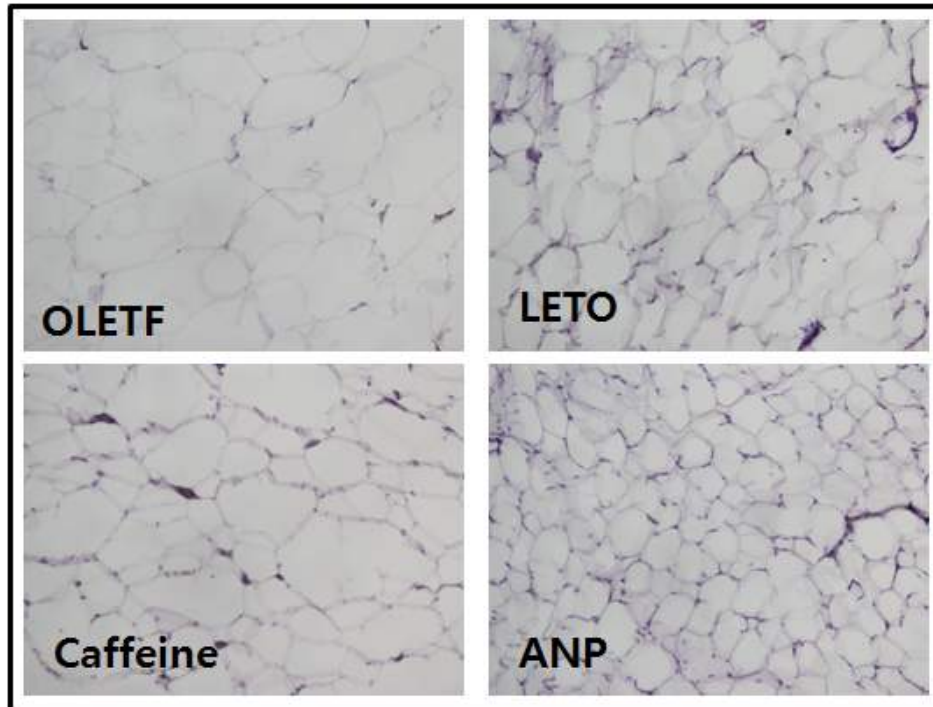
Fig. 1. Effect of ANP on subcutaneous adipose tissue. At end of experiment, all the animals were sacrificed and subcutaneous adipose tissue was isolated, cryosectioned.

Table 1. Determination of Biochemical Parameters after 13 Weeks in Blood

	Glucose mg/dL	AST (SGOT) IU/L	ALT (SGPT) IU/L	Cholesterol mg/dL	HDL-cholesterol mg/dL	LDL-cholesterol mg/dL	RF정량 IU/mL	Hb A1c %	MPG mg/dL	IFCC환산결과 mmol/mol
OLETE	157.5	121	37.5	82	33	5.5	4.25	3.95	66.5	19.5
LETO	241.5	107	30.5	79.5	31	5.5	3.35	3.95	66.5	19.5
Caffeine	157	112.4	35.4	88.45	32.2	6.4	3.275	3.91	65.4	19.1
ASP	154.4	114.6	37.5	90.1	32.1	6.3	3.3	3.9	66	19.3