

LETTER TO THE EDITOR

EFFECT OF RAW DESEEDED FRUIT POWER OF *TRICHOSANTHES DIOICA* (ROXB) ON BLOOD SUGAR, SERUM CHOLESTEROL, HIGH DENSITY LIPO-PROTEIN, PHOSPHOLIPID AND TRIGLYCERIDE LEVELS IN THE NORMAL ALBINO RABBITS

Sir,

( Received on December 23, 1987 )

*Trichosanthes dioica* Roxb. (Hindi - 'Pointed gourd' or 'Parval') fruits are used as vegetable. In indigenous system of medicine its use has been considered in the treatment of alopecia, epilepsy, fevers, headache, leprosy, whooping cough, skin diseases and ulcers (1-5). The effect of chronic feeding of deseeded fruit power of *T. dioica* in the raw form on the blood sugar and serum lipid profile of healthy normal albino rabbits is reported here.

Fresh fruits of *T. dioica* purchased locally were washed, cut, and seeds were separated; the pulp with skin was air dried, powdered, and stored at room temperature in glass containers (1 g dry powder=15 g fresh weight). Diet for experimental work was prepared by mixing the powder uniformly (1 g/100 g) with Hindustan Gold Mohr (HGM) rabbit feed (Control diet).

Eight normal male healthy albino rabbits (1.2 to 1.8 kg) were maintained on HGM rabbit feed for a month (control period). The animals had free access to food and water, and their daily consumption of food was between 95 to 100 g. Fasting samples of venous blood were collected twice during this period two weeks apart and analysed to check constancy of their levels, this was followed by ad libitum feeding of the experimental diet for eight weeks. The total amount consumed per day was not altered. Fasting blood samples were analysed for sugar (FBS, 6), total serum cholesterol (7), HDL-cholesterol (8), phospholipids (PL, 9) and triglycerides (TG, 10). The data were evaluated statistically by applying Mahlanabis 'd' test.

Analysis of blood samples during the control period and after feeding experimental diet upto 8 weeks revealed that FBS levels, total serum cholesterol and TG levels fell significantly from 1st week; the fall was progressive. On the other hand, HDL-cholesterol and PL levels increased significantly (Table I).

TABLE I : Effects of feeding power of *T. dioica* fruits (excluding seeds) in diet (1 g/100 g) in raw form on blood sugar, serum cholesterol, HDL-cholesterol, triglycerides (sTG) and phospholipids (sPL) in the normal albino rabbits.

Parameter	Control	Experimental			
		1st	3rd	4th	8th
Blood sugar	77.49 ± 3.21	71.34 ± 1.83** (7.94)	67.51 ± 2.55 (12.88)	65.81 ± 2.98** (15.07)	62.09 ± 3.08** (19.87)
Serum cholesterol	89.92 ± 6.11	78.81 ± 6.48** (12.36)	73.12 ± 5.61** (18.68)	70.30 ± 5.18** (21.82)	59.64 ± 3.88** (33.67)
HDL-cholesterol	21.57 ± 3.86	25.33 ± 4.23** (17.43)	27.04 ± 4.21** (25.36)	29.29 ± 3.96** (35.79)	32.36 ± 3.03** (50.02)
sTG	189.44 ± 12.47	170.60 ± 12.41** (9.94)	158.65 ± 8.66** (16.25)	149.07 ± 7.53** (21.31)	132.40 ± 8.45** (30.11)
sPL	73.93 ± 5.18	77.76 ± 5.41* (5.18)	81.69 ± 3.96** (10.50)	83.65 ± 3.55** (13.15)	88.15 ± 3.87** (19.23)

n=8 in each group : Values are mean±S. D.

Figures in parentheses indicate percent change.

P values \*\*<0.001, \*<0.01.

Raw deseeded fruit powder of *T. dioica* showed potent hypoglycemic, hypocholesterolemic, hypotriglyceridemic and hyperphospholipidemic effects in the normal albino rabbits. In addition to this, the HDL-cholesterol is significantly increased. Since total cholesterol shows decrease and HDL-cholesterol shows an increase, obviously low density and very low density lipoprotein is ought to decreased tremendously.

The observed effect could be of clinical interest from view point of cardiovascular disorders (11-14) and diabetes mellitus (15).

## ACKNOWLEDGEMENTS

The authors are grateful to Indian Council of Medical Research, New Delhi for providing financial support.

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