

Phytochemical and anti hyper lipidemic activity of *Brassica juncea* L.

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SUMMARY

The phytochemical and antihyperlipidemic activity of *Brassica juncea* L. seed showed the presence of tannins, alkaloids, flavonoids, steroids, amino acids, reducing sugar and carbohydrate. In antihyperlipidemic activity, the levels of cholesterol, LDL, VLDL, triglycerides, phospholipids were decreased by the administration of *Brassica juncea*. The level of HDL cholesterol was elevated in hyperlipidemic treated with *Brassica juncea*. The result indicates, the orally administrated was effective and suppressing the high fat diet induced hyperlipidemia.

Key words : LDL, VLDL, Triglycerides, phospholipids and *Brassica juncea* L.

Herbal medicines are comparatively safe and environment friendly than synthetic ones and also very effective, cheaply available supposedly have no side effect and used as alternative to allopathic medicine (Rajesh *et al.*, 1979). *Brassica juncea* is a perennial herb, usually grown as an annual or biennial, up to 1m or more tall; branches long, erect or patent; lower leaves petioled, green sometimes with a whitish bloom, ovate to obovate, variously lobed with toothed, scalloped or frilled edges, lyrate-pinnatisect with 1-2 lobes or leaflets on each side and a larger sparsely setose, terminal lobe, upper leaves subentire, short petioled, 30-60 mm long, 2-3.5 mm wide, constricted at intervals, sessile attenuate into a tapering seedless, short beak 5-10 mm long. Mustard greens are high in vitamin A and C and iron. It contains calcium - 60%, water - 91.8 g, protein - 2.4 g, fat - 0.4 g, fiber-1.0 g, ash-1.1 g, sodium-24 mg, thiamine - 0.06 mg, riboflavin-0.14 mg and niacin-0.8mg (Knowles *et al.*, 1981; Maity *et al.*, 1980; Collins *et al.*, 1994).

Drug therapy for hyperlipidemia, if required, should be viewed as an adjunct to dietary management and other lifestyle changes. These are currently a range of lipid - lowering drug available with a variety of actions. The most common drugs for the treatment of primary hypercholesterolemia are HMGCOA reductase inhibitors and the bile acid sequestrates resins. The most common drugs for the treatment of primary hypercholesterolemia or combined hyperlipidemia are the fibrates or nicotinic acid and its derivatives (Perioff, 1991). Many plants and plant products have been used to solve the problem

associated with hyperlipidemia. So in this present study, tried dietary supplement of *B. juncea* L. for reducing the cholesterol which is induced in male albino rats.

MATERIALS AND METHODS

The seeds of *Brassica juncea* (mustard) were purchased from local market, Thanjavur, Tamilnadu, India. *B. juncea* powder was used for phytochemical and pharmacological analysis. Test for tannins, saponin, alkaloids, flavonoids, steroids, terpenoids, reducing sugar, amino acid and carbohydrates was carried out in phytochemical studies. Swiss male albino rats (Wt 150 - 200 mg) were used for pharmacological study (Sinha, 1972; Trease and Evans, 1978; Chung, 1995). The animals were divided into four groups. Group I used as control. Group II acted as experimental control (The animals were fed with 0.5 mg of cholesterol along with the feed for 20 days). Group III animals were treated with aqueous extract of mustard seeds (1 g) and cholesterol feed. Group IV is fed with aqueous extract of mustard seeds. The collected serum used for the determination of cholesterol, LDL - cholesterol, VLDL - cholesterol, HDL - cholesterol, triglycerides and phospholipids were estimated by the method (Kakkar and Dar Viswanathan, 1999; Samman, 2001). All the groups of data were statistically evaluated by using 't' test.

RESULTS AND DISCUSSION

The results obtained from the present investigation are presented below:

Phytochemical analysis:

The qualitative analysis of the phytochemical in *Brassica juncea* was made, which is presented in Table 1. Certain active constituents like tannins, saponin, alkaloids, flavonoids, steroids, terpenoids, reducing sugar, phenolic

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