

Short Communication

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EFFECT OF *RAPHANUS SATIVUS* LINN OIL ON RABBIT SKIN

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Raphanus sativus Linn is commonly known as radish, (Muli safed) belongs to family Cruciferae and cultivated throughout subcontinent Indo Pak (Nadkarni 1954). The plant is an excellent source of vitamins B and C. This plant is used as purgative, stimulant, antiscorbutic, diuretic and lithotryptic. The seeds has been used as emmenagogue and in treatment of gonorrhoea and cancer (Watt *et al* 1962).

Seeds of radish are expectorant, diuretic, laxative, carminative (Kirtikar and Basu 1933; Chopra *et al* 1958). Seeds and root contains a fixed oil, essential oil, a sulphurated volatile oil which resembles mustard seed oil. This oil contains sulphur and phosphoric acids (Nadkarni 1954; Watt *et al* 1962).

The crude enzyme chitanase purified from radish seed found to posses relatively, high chitin hydrolysing activity. (Kondo *et al* 1997) seed contains β sitosterol (Wang *et al* 1997). Due to above mentioned importance, the radish seeds were chosen for further pharmacological studies.

(B.P 40 - 60°C) 200 ml. The solvent was removed under reduced pressure to furnish oil which was of golden yellow color (14.87g, 29.74%) (Zahra *et al* 1999).

Acute toxicity test on Albino mice. The acute test (72 hours) of *Raphanus* oil was determined by the administration of oil via oral route in albino mice (25 - 30g). *Raphanus* oil test material was administered in doses of 1600, 1800 and 2100 mg/kg body wt to mice of groups I, II and III; while group IV was maintained as standard and received the olive oil. Group V kept as control and received the normal saline. Each group comprised of six animals of either sex, which were observed for one month, there was no extra ordinary change in the physical condition and then autopsied to see any gross changes in various organs i.e. heart, lung, liver, stomach, spleen, G.I.T., kidneys, ovaries and testes. *Raphanus sativus* Linn given by oral route was found to be nontoxic (Loomis 1978).

Effect of Raphanus oil on rabbit skin. Rabbits having an average weight of 2 kg - 2.5 kg were used. The skin was shaved off. The diameter of shaved portion was 2.5 ± 0.2 inches. The shaved portions were washed with lukerious water to remove dust and other adhering particles. Skin tests were carried out on either side (Loomis 1978). The animals were photographed before and after completion of observation period (Table 1).

The animals were kept in separate cages for local application for 30 days and considered as test group. The test oil 0.1 ml was taken from the measuring dropper and rubbed with

Table 1
Effect of *Raphanus sativus* oil on rabbit skin

Group	No. of rabbit	Age (Month) per day	Dosage (In ml) Oil (days)	No. of Application per day	Periods experiment (days)	Amount of drug applied in 30 days (ml)	Toxic effects	Results
Test	6	3	0.1 (<i>Raphanus</i> oil)	2	30	12.0	Nil	+
Standard	6	3	0.1 (olive)	2	30	12.0	Nil	+
Control	6	3	Nil	2	30	-	Nil	+

The *Raphanus sativus* seeds of the best quality (one Kg) were purchased from local market and identified by the Pharmacognosy section of these laboratories. Seeds were washed thoroughly with distill water and dried in open air at room temperature at 37°C for 24 hrs.

Extraction of oil. The wash and dried seeds (50 g) were subjected to a kitchen chopper (10,000 rpm). Oil from the seeds powder extracted in a soxhlet extractor with pet- ether

spatula on either side of the rabbit skin. *Raphanus* oil was absorbed from the skin, there was no protection over the shaved area. No precautions were taken to prevent the animals from ingesting the oil (Fig 1). Olive oil was used as standard on another group of animals taken as standard group because it is a well known emollient having no toxic effect, (Fig 2) (Gernaro 1985; Maryam *et al* 1993).

Some naturally wounded rabbits were found and their wound treated with *Raphanus sativus* Linn oil in same

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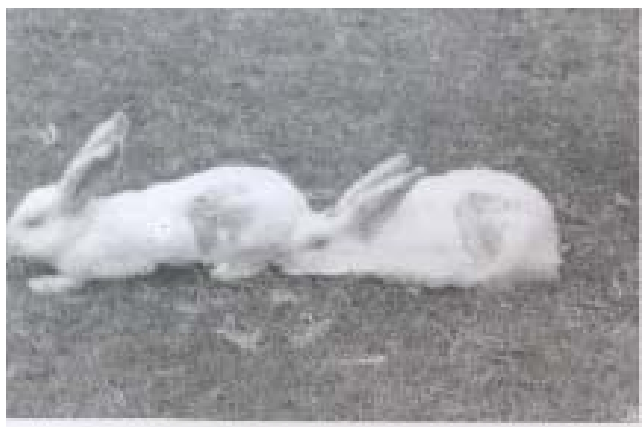


Fig 1. Test group after 30 days treatment with *Raphanus* oil



Fig 2. Standard group after 30 days treatment with olive oil.



Fig 3. Naturally wounded rabbit.

protocol (Fig 3). Recovery took place after 15 and 30 days (Fig 4 and Fig 5).

The results of the effect of *Raphanus* oil on rabbit skin has been compared with olive oil and control in Table 1. During 30 days of treatment no animal showed any injurious effect i.e. redness, swelling, cracking or itching on skin during the



Fig 4. Wounded treated with *Raphanus* oil after 15 days.



Fig 5. Wound after treatment of 30 days with *Raphanus* oil.

observation period. The results indicate, that performance of both the oils is almost identical. These tests assess the dermal toxicity on animal skin.

Key words: *Raphanus sativus* Linn seed oil, Toxicity, Wound, Healing.

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