

Short report

Effect of aqueous *Euphorbia hirta* leaf extract on gastrointestinal motility

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Abstract

The aqueous leaf extract of *Euphorbia hirta* decreased the gastrointestinal motility in normal rats and decreased the effect of castor oil-induced diarrhoea in mice.

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Keywords: *Euphorbia hirta*; Gastrointestinal motility; Castor oil; Diarrhoea

1. Plant

Euphorbia hirta L. (Euphorbiaceae), herb collected in June–July 2001 from the University grounds was authenticated by the Botany Department of G. B. Pant University of Agriculture and Technology, Pantnagar-263 145, Uttaranchal, India.

2. Uses in traditional medicine

The plant has been used in traditional medicine for the treatment of cough, coryza, hay asthma, bronchial affections, bowel complaints, worm infestations, kidney stones and low

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milk yield [1,2]. The whole plant has also been reported to possess antibacterial [3], antiamoebic [4,5], antifungal [6,7], antiviral [8], spasmolytic [4], antidiarrhoeic [9], sedative, anxiolytic [10], analgesic, antipyretic, anti-inflammatory [11], antimalarial [12] and anti-hypertensive [13,14] properties.

3. Previously isolated constituents

Tannins [11,15–17], flavonoids [9,11,18], phenolic acids, saponin, and amino acids [11].

4. Tested material

Aqueous leaf extract (ELE; yield: 25%).

5. Animals

Male albino rats (180–200 g) and mice (20–25 g) were maintained in standard environmental conditions.

6. Studied activities

6.1. Modulation of normal defecation in rats [19,20]

Rats were placed individually in polyethylene cages with filter paper at the bottom. ELE (100–1000 mg/kg) was given orally together with carmine red (1%) to each rat. Animals in the control group received normal saline (10 ml/kg) with the dye. The time of onset of the first coloured faeces (min) as well as the total number of faeces in 12 h were recorded.

Table 1
Effect of the *E. hirta* leaves aqueous extract (ELE) on normal defecation in rats^a

Treatment	Dose (mg/kg, p. o.)	Time of onset of first coloured faeces (min)	Total number of faeces in 12 h
Control	–	515 ± 14.01	18.17 ± 1.25
ELE	100	645 ± 22.17***	13.83 ± 1.17*
ELE	300	888 ± 20.40***	7.00 ± 1.10***
ELE	1000	1680 ± 101.59***	2.17 ± 0.79***

N=6.

^aMean ± S.E.

P* < 0.05, **P* < 0.001 vs. control, Student's *t*-test.

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