

Short Research Communication

A PRELIMINARY STUDY OF THE ANTIFERTILITY EFFECT OF SOME AYURVEDIC DRUGS

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Three Ayurvedic drugs Ruellia tuberosa Linn. (tubers), Heliotropium indicum Linn. and Daucus carota, Nantes (seeds) were screened for their possible antifertility effect on female albino rats. The alcoholic extract of D. carota, Nantes revealed 60% antifertility effect; while the other two plants did not exert much antifertility activity.

The petroleum ether, benzene, alcohol and aqueous extracts of three indigenous drug plants viz. *Ruellia tuberosa* Linn., *Heliotropium indicum* and *Daucus carota* Nantes have been screened on female albino rats. The different extracts were given orally by means of Ryle tube from the first day to the seventh day of pregnancy to female albino rats. During screening of all the extracts of the above mentioned drug plants, the alcoholic extract of *D. carota* Nantes only showed encouraging antifertility activity; while the other extracts were either less active or inactive. No evidence of teratogenicity was observed at the given dose levels.

Material and Methods

The tubers *Ruellia tuberosa* Linn (Acanthaceae) and *Heliotropium indicum* (Boraginaceae) were collected from the surrounding of Aligarh District (U.P.) and indentified by a term of expert Botanists and Pharmacognosists. The seeds of *Daucus carota* Nantes (Umbelliferae) were purchased from local market. The different plant materials were dried in shade, ground and extracted with petroleum ether (60-80°), benzene, alcohol and distilled water for twenty four hours under reflux at their respective boiling points. After distilling the solvents under reduced pressure the dosage of extracts were prepared by making a solution/suspension both in 2% gum acacia/ distilled water for the use of experiments. Testing of these extracts was carried out by a method standardized by Khana *et al* (1968).

Results and Discussion

(1) *Daucus carota* Nantes (seeds) - Since the seeds of *D. carota* var. *sativa* have been tested many times for antifertility been tested many times for antifertility activity and showed encouraging results, it (Garg, et al, 1971, 1978) was found interesting to select Nantes variety of *D. carota* for screening. In the present investigation 60% anti-fertility activity was observed in the alcoholic extract and 40% in aqueous extract at a dose of 500 mg/kg body weight (Table-I).

Table-I

Some indigenous drug plants screened for anti-fertility activity on female albino rats

Name of plant and part of plant screened	Nature of extract	No. of rats pregnant/treated	Dose mg/kg Body weight	No. of implantation sites in individual rats (laprotomized on day-10)	No. of pups delivered in individual rats	Antifertility Activity
Control group (Vehicle-water)	-	5/5	-	10,9,12,10,7	9,9,10,9,5	-
Control Group (Vehicle-gum acacia)	-	5/5	-	11,10,7,9,10	9,9,7,8,10	-
<i>Daucus carota</i> , Nantes (seeds)	Alc.	2/5	500	7,7	7,5	60
	Aq.	3/5	500	1,6,8	1,6,8	40
		4/5	100	7,5,7,8	6*,5,7,8	20
<i>Heliotropium indicum</i> Linn.	P.E.	3/5	500	6,1,6	6**,1,4	40
		4/5	100	9,8,5,6	8,8,4,5	20
	Alc.	5/5	500	7,9,4,8,5	7,7**, 4, 7, 5	0
		5/5	100	8,4,9,10,8	8,3,9,10,7	0
	Aq.	4/5	500	5,5,6,5	2,1,4,2	20
		5/5	100	9,8,6,6,8	8,7*,6,6,8	0
<i>Rullia tuberosa</i> Linn, (tubers)	Benzene	4/5	500	5,10,5,4	4,9,5,4	20
		5/5	100	10,10,4,1,8	9,10,4,1,7	0
	Alc.	4/4	500	8,9,8,5	7,7,4,5	0
		5/5 ⁺⁺	100	9,5,9,9	7,5,9,8	0
	Aq.	3/4 ⁺	500	8,7,7	6,7	25
		4/4	100	9,9,9,7	8,9,9,5	0

*One pup dead

**Two pups dead

⁺ One rat died post operation

⁺⁺ One rat died on day 5

(2) *Heliotropium indicum* Willd-The literature reveals that flowers of this plant are considered emmanagogue in small doses and abortifacient in higher doses (Kirtikar, *et al* 1935). But in the present study only 40% activity was observed in the petroleum ether extract of the plant at a dose of 500 mg/kg bodyweight.

(3) *Rullia tubersoa* Linn. (tubers)- The roots of Ruellia species are given to a pregnant woman to cause abortion in the quantity of 2 OZ (Kirtikar, *et al* 1935). The tubers of R.

tuberoses are routinely used by a tribal population (Adivasis) in Orissa state as a contraceptive agent in women, were screened for antifertility activity. The results indicated that it did not exert any significant activity.

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हिन्दी सारांश

कतिपय आयुर्वेदीय औषधियों के गर्भनिरोधक प्रभाव का प्रारम्भिक अध्ययन

सी.के.अन्धीबल, आर.पी.वार्ष्नेय एवं चन्द्र हास

तीन आयुर्वेदिक औषधियों, पहाड़ी गाजर के बीज (डायोकस कैरोटा, नैन्थस), चटखनी की जड़े (रुइलिया ट्यूविरोसा लिन.) तथा हाथीसूड़ा को मादा एलविनों चूहों पर संभावित अप्रजनन क्रिया का परीक्षण किया गया। उपर्युक्त औषधियों में से पहाड़ी गाजर के बीजों का अल्कोहल निस्संद ने ६०% प्रभाव दिखाया जब कि अन्य दो औषधियों ने अधिक प्रभाव नहीं दिखाया।