J. Reprod. Fert. (1975) **43**, 127–128

EFFECT OF CHROMATOGRAPHIC FRACTIONS OF THE PLANT *ACHYRANTHES ASPERA* LINN. ON FERTILITY IN FEMALE ALBINO MICE

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(*Received 19th August* 1974)

The crude benzene extract of the stem of *Achyranthes aspera* (Amaranthaceae), an indigenous herb in India, has been found to possess a significant antifertility effect (Pakrashi, Basak & Mookerji, 1975). The follow-up work to locate the active principle is reported in this communication.

Colony-bred Swiss albino mice of proven fertility were caged in the ratio of one male to two females. The day on which a vaginal plug and spermatozoa were detected was taken as Day 1 of pregnancy. The test samples were dissolved in olive oil and administered orally. The chromatographic fractions were all tested on Day 6 of pregnancy, and laparotomy was performed under ether anaesthesia, usually on Day 10 but sometimes earlier.

The dried and crushed plant material was defatted with petroleum ether and then extracted with benzene in a Soxhlet apparatus. The crude gummy mass obtained after evaporation of the solvent was dissolved in a benzene–petroleum

Table 1. Effect of various chromatographic fractions of different extracts of the stem of *Achyranthes aspera* on fertility in mice

Extract	*Chromatographic fractions**	*No. of mice used*	*No. of mice with implantation sites*	*No. of mice without implantation sites*	*% of mice showing antifertility effect*
Vehicle only (control)	—	10	10	—	0
Benzene extract	Petroleum ether eluate	10	10	—	0
	Benzene eluate	12	—	12	100
	Chloroform eluate	10	2	8	80
	10% Methanol in chloroform eluate	10	6	4	40
Benzene eluate	Petroleum ether + benzene (3:1, v/v)	11	4	7	63·7
	Petroleum ether + benzene (1:1, v/v)	16	4	12	75
	Petroleum ether + benzene (1:3, v/v)	10	10	—	0
	100% Benzene	10	7	3	30
	Benzene + chloroform (3:1, v/v)	8	3	5	62·5

* Given at a dose level of 50 mg/kg body weight on Day 6 of pregnancy.

ether mixture and chromatographed through a column of silica gel using petroleum ether, benzene, chloroform, and 10% methanol in chloroform as eluents, in that order.

Of the chromatographic fractions tested, only the benzene and chloroform eluates from the benzene extract showed a significant antifertility effect (Table 1). The benzene eluate was further fractionated through a silica gel column using petroleum ether and increasing percentages (25 to 100%) of benzene and chloroform as eluants. The different fractions were dried and tested. The data in Table 1 show that the fraction eluted with 50% benzene in petroleum ether possessed the maximum activity. Further work to isolate the active principle is in progress.

REFERENCE

PAKRASHI, A., BASAK, B. & MOOKERJI, N. (1975) Search for antifertility agents from indigenous medicinal plants. *Indian J. med. Res.* (in press).