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supplemented with soya flour (45 g daily), red clover sprouts (10 g dry seed daily), and linseed (25 g daily), each for two weeks in turn. To check compliance the women returned residual food. Blood samples were taken weekly and lateral wall vaginal smears taken fortnightly and at follow up two and eight weeks after supplementation finished. Analysis was on intention to treat, but 23 women completed the study.

We examined the dependent variables vaginal cell maturation and serum concentrations of luteinising hormone and follicle stimulating hormone. The cumulative effects of the three foods at six weeks were compared with baseline by the paired *t* test, as were the residual effects, two and eight weeks after the last food supplement. We found significant differences in vaginal cytology after six weeks' supplementation ($p < 0.01$, 95% confidence interval 6.0 to 17.6), which persisted for two weeks after treatment ($p < 0.02$), but cytology returned to baseline after eight weeks (table).

Mean (SE) values for oestrogenic indicators in postmenopausal women consuming phyto-oestrogens

Week	Maturation value	Luteinising hormone (IU/l)	Follicle stimulating hormone (IU/l)	
1		45.7 (3.1)	58.7 (2.9)	
2	30.8 (4.5)	46.6 (3.4)	58.7 (3.0)	
3		50.8 (8.5)	57.4 (2.9)	
4	35.0 (5.1)	46.0 (3.6)	57.3 (2.9)	
5	Food supplementation	46.2 (3.3)	57.7 (3.0)	
6		42.9 (3.2)	54.3 (2.9)	
7		43.6 (3.3)	56.4 (2.8)	
8		43.4 (3.6)	44.6 (3.3)	56.6 (2.4)
9		44.9 (3.5)	44.9 (3.5)	57.9 (2.8)
10		43.6 (4.7)	44.9 (3.3)	57.5 (2.7)
16	33.7 (5.5)			

The maturation value significantly increased after soya flour ($p < 0.05$) and linseed ($p < 0.02$) but not after red clover sprouts ($p = 0.11$).

All women had concentrations of follicle stimulating hormone and luteinising hormone greater than those in the premenopausal range of 2-8 IU/l and 6-13 IU/l respectively. There was a cumulative effect on serum concentrations of follicle stimulating hormone ($p < 0.05$) but not on luteinising hormone over the six week supplementation period. Individual two week food supplements had no measurable effects on either hormone.

In seven women with the most pronounced changes in vaginal cytology we measured serum oestradiol concentrations weekly. Baseline concentrations were < 70 pmol/l in all but one woman, who was retained as the study was based on intention to treat. There were no appreciable changes in body weight during the study.

Comment

We aimed to consider whether phyto-oestrogens were of consequence in human nutrition. Our study gives some indication of the recovery time from any possible effect of treatment and also provides further evidence of causality. Vaginal maturation is a sensitive and specific indicator of oestrogenicity. Follicle stimulating hormone is less sensitive to weak oestrogenic compounds such as phyto-oestrogens. Weak oestrogenic compounds may sometimes act as anti-oestrogens, which may affect their usefulness as

sources of oestrogenic activity. Conversely, tamoxifen, an anti-oestrogen, can have oestrogenic effects on vaginal cytology.⁵

Patterns of food intake may modulate the severity of the menopause as it is an oestrogen deficiency state. Up to half of the diet of some populations may comprise foods containing phyto-oestrogens, whereas in our study such foods comprised only about 10% of energy intake for a fairly short time. Whether menopausal symptoms differ in such populations would be worth investigation.

We thank our statistical adviser, Steve Farrish, from the department of social and preventive medicine, Monash University.

- 1 Schutt DA. The effects of plant oestrogens on animal reproduction. *Endeavour* 1976;35:110-3.
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Inadvertent duplicate publication

Loop diathermy excision of the cervical transformation zone in patients with abnormal cervical smears

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The *BMJ* regrets that much of the material in the above article (30 June 1990, p 1690) was substantially the same as that published previously in *Contemporary Reviews in Obstetrics and Gynaecology* (Redman CWE, Buxton EJ, Cullimore J, Luesley DM. Loop diathermy excision of the cervical transformation zone in the management of cervical intraepithelial neoplasia. 1990;2:53-8). The authors did not tell us this when the article was submitted, their article did not contain any reference to the earlier paper, and all authors signed our copyright form, which states, among other things, that "papers are accepted on condition that they have not been published by any other journal."

We regret this inadvertent duplicate publication, for which the authors hold sole responsibility, and which is in violation of our Instructions to Authors and internationally agreed guidelines.

Correction

Incidence of peptic ulcer disease in Gothenburg, 1985

An editorial error occurred in this paper by Dr Ivi-Mai Schöön and others (1989;299:1132). The y axis of figure 1 should read 0, 5, 10, 15, and 20 and not 0, 0.5, 1.0, 1.5, and 2.0 as published.