The dangers of herbalism

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Herbal preparations are often ignored when a drug history is taken, but because of the biological potency of many of these preparations and their increasing availability and popularity patients should be asked specifically about their use, especially when presenting with unusual symptoms or signs.

Case report

A 30 year old man of Indian extraction presented at a dermatology clinic with a six month history of photosensitivity. After being exposed to summer sunshine in London in the middle of the day he would develop erythema and itching of the hands and ears the same evening and blistering the following day. He had had extensive vitiligo for 20 years, but the photosensitivity also affected normally pigmented skin. He denied having a history of photosensitivity and said that he was not taking any drugs. He had slight post-inflammatory hyperpigmentation at the site of a recent blister and vitiligo but no milia or scarring. Because he drank a moderate amount of alcohol we measured the urinary porphyrin concentration to exclude porphyria cutanea tarda, but this yielded negative results. Tests for antinuclear antibody yielded weakly positive results.

He then told us that during the previous six months he had been taking a herbal infusion as a self treatment for vitiligo. This had not had much effect on the depigmentation but seemed to be related to his photosensitivity. We advised him to stop taking the infusion and three months later he had had no problems with photosensitivity until the week before, when he had taken the infusion again and sat out in the sun, whereupon the blistering had recurred.

Comment

Our patient took an infusion prepared from the powdered seeds of *Psoralea corylifolia* in a daily dose equivalent to 30 g of the seeds. *P corylifolia* is a leguminous plant native to India (where it is known as babchi) that has been used since 1400 BC to treat vitiligo and psoriasis by ingestion of the powdered seeds and by externally applying an oleoresinous extract of the seeds.[1] The seed contains psoralen, isopsoralen, and psoralidin.[2] *P corylifolia* contains more than 10 times the amount of psoralen per unit weight of dried seeds than any other members of the genus, and an extract of the seeds has potent photosensitising activity when applied to the skin of guinea pigs.[3] Patients with leucoderma have been treated at the Central Drug Research Institute and at Vellore Medical College, India, with a mixture of psoralen and isopsoralen prepared from the seeds of *P corylifolia*, and a useful therapeutic effect was reported in young patients with disease of recent onset.[1]

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Brisk walking and plasma high density lipoprotein cholesterol concentration in previously sedentary women

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In England and Wales coronary heart disease is responsible for 23% of deaths in women under 75, but few studies have examined the potential of changes in lifestyle to influence risk factors for coronary heart disease in women. We examined the influence of brisk walking on plasma total cholesterol and high density lipoprotein cholesterol concentrations in formerly sedentary women.

Subjects, methods, and results

Forty four women volunteered for the study, of whom 28 joined the group allocated to brisk walking ("the walkers"; mean age 44·9 (SD 7·9) years) and 16 agreed to serve as controls (mean age 44·4 (9·2) years). After baseline tests the controls maintained their habitual lifestyle and the walkers followed a progressive programme of brisk walking. Mean brisk walking pace was 1·72 (0·26) m/s at the start of the study, increasing to 1·87 (0·37) m/s after 12 months, and elicited 60% of predicted maximal oxygen uptake. The walkers walked for an average of 155 (48) minutes (range 75-287) per week over the year, which was equivalent to 16·1-17·4 km and an estimated weekly energy expenditure of 3·6 MJ. This programme enhanced exercise tolerance and modified favourably the metabolic and cardiovascular responses to standard, submaximal exercise.[1]

Cholesterol concentration was assayed by an enzymatic colorimetric method (Boehringer Mannheim). Multivariate analysis of trends did not show any significant difference between the walkers and the controls in the total cholesterol concentration during the study. There was a significant trend in high density lipoprotein cholesterol concentration in the walkers over time, which was adequately modelled by a straight line. The overall difference between the lines for the walkers and controls was attributable to a difference in the slopes ($p<0·0001$), estimated as being 0·02 mmol/l/month (95% confidence interval 0·01 to 0·03 mmol/l/month) over the 12 months (table). There were no

Mean (SEM) plasma cholesterol concentrations and average daily intakes of energy and fat in 28 women during programme of brisk walking and in 16 controls over 12 months

	Baseline	3 Months	6 Months	12 Months
Total cholesterol (mmol/l):				
Walkers	5·35 (0·23)	5·18 (0·20)	5·28 (0·18)	5·00 (0·22)
Controls	5·41 (0·26)	5·41 (0·21)	5·50 (0·20)	5·29 (0·24)
HDL cholesterol (mmol/l):				
Walkers	1·17 (0·08)	1·40 (0·06)	1·42 (0·06)	1·49 (0·06)*
Controls	1·32 (0·07)	1·35 (0·06)	1·33 (0·06)	1·35 (0·05)
Total: HDL cholesterol:				
Walkers	5·2 (0·4)	3·8 (0·2)	3·9 (0·2)	3·5 (0·2)*
Controls	4·2 (0·2)	3·9 (0·2)	4·4 (0·2)	4·4 (0·3)
Energy intake (MJ):				
Walkers	7·7 (0·4)		7·6 (0·4)	7·4 (0·4)
Controls	6·9 (0·3)		7·0 (0·3)	7·0 (0·3)
Fat intake (g):				
Walkers	72 (4)		69 (4)	69 (4)
Controls	66 (5)		67 (4)	67 (4)

*Significant difference in trend over 12 months between walkers and controls.

significant trends over time in average daily intake of either energy or fat, determined by weighing food intake for seven days.

Comment

Our study helps to resolve the uncertainty over the amount and type of exercise needed to diminish the risk of coronary heart disease. In these sedentary women a considerable progressive increase in high density lipoprotein cholesterol concentration resulted from a programme of brisk walking for one year.

What are the implications of these changes in blood lipid concentrations for the risk of coronary heart disease? Three studies evaluated prospectively the association between high density lipoprotein cholesterol concentration and subsequent coronary heart disease in women.[2-4] Each reported the concentration to be a strong, negative, independent predictor, an increase of 0·26 mmol/l (10 mg/100 ml) being associated with a 42-50% decrease in risk.[3,4] Based on this evidence, a 54-64% reduction in the number of coronary events over 10 years would be expected if the changes shown here were achieved in a population of women. The importance of our findings is further emphasised by the considerable favourable changes in the ratio of total cholesterol to high density lipoprotein cholesterol concentrations. This ratio was highly predictive of coronary heart disease in Israeli women,[4] independent of the total cholesterol concentration.

Total cholesterol concentration did not change significantly in the walkers compared with the controls. Nevertheless, at 12 months the mean value was 0·35 mmol/l lower than the baseline value; it had tended to decrease most in those with the highest baseline values. Consequently there might be a therapeutic role for low intensity exercise in patients with hypercholesterolaemia.

Exercise will play a part in a population approach to coronary heart disease only if the amount and intensity of exercise needed to confer a decrease in risk are attainable and attractive for large numbers of people. In women high density lipoprotein cholesterol concentration is arguably the most important lipid risk factor.[5] We found that it can be modified by a socially acceptable exercise regimen.

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Effect of nifedipine on Doppler flow velocity waveforms in severe pre-eclampsia

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Blood pressure is hard to control in women with pre-eclampsia. Even when a successful drug regimen is found there is concern about the possible effects of reducing blood pressure on perfusion to the fetoplacental unit. We recently showed that the combination of atenolol and nifedipine can usefully prolong pregnancies complicated by pre-eclampsia.[1] Although many data suggest that atenolol can safely be used in the third trimester,[2] the safety of nifedipine has not been fully investigated. Lindow *et al* recently reported that nifedipine does not reduce uteroplacental blood flow as measured with a radioisotope technique.[3] No data exist, however, on haemodynamic variables on the fetal side of the circulation. We report here the measurement by Doppler ultrasonography of variables of blood velocity on both the maternal and fetal sides of the circulation in women who had received nifedipine as monotherapy in pre-eclampsia.

Patients, methods, and results

We studied nine women with hypertension and proteinuria who had been normotensive in early pregnancy and had normal Doppler waveform variables. Their mean age was 28·0 (SD 5·5) years, and eight were primigravidas. The gestation at the time of study was 29·4 weeks (range 24-35 weeks). A 4 MHz continuous wave Doppler system with a spectrum analyser was used to obtain five representative waveforms from the uteroplacental and umbilical arteries after the patients had rested in the semi-recumbent position for 30 minutes. The technique has been described previously.[4] The pulsatility index (systolic minus diastolic velocity/mean velocity), an index of downstream impedance to flow, was calculated individually for each waveform and the mean recorded. Blood pressure was measured with an automatic sphygmomanometer. Maternal pulse and fetal heart rate were also noted. Nifedipine retard 20 mg was then given orally and all recordings repeated hourly for eight hours. Differences in the variables studied were analysed by repeated measures analysis of variance with Bonferroni multiple comparisons when appropriate.

Despite a rapid and sustained effect on blood pressure no effect was seen on either fetal or maternal Doppler variables (table). The reduction in systolic blood pressure was significant for the first six hours after treatment, and an effect on diastolic blood

Mean (SD) values of Doppler variables of blood flow after administration of nifedipine retard 20 mg to nine women with pre-eclampsia

	Time (hours) after nifedipine was given									
	0	1	2	3	4	5	6	7	8	Significance
Blood pressure (mm Hg):										
Systolic	157 (18)	142 (9)	141 (13)	143 (9)	148 (14)	146 (14)	146 (9)	154 (19)	153 (13)	p=0·022
Diastolic	99 (9)	85 (5)	84 (6)	84 (7)	85 (7)	86 (7)	89 (9)	91 (11)	90 (10)	p<0·001
Fetal heart rate (beats/min)	143 (7)	145 (11)	142 (10)	143 (9)	140 (10)	142 (11)	140 (7)	141 (9)	139 (7)	p=0·878
Pulsatility index:										
Umbilical artery	1·73 (0·61)	1·85 (0·73)	1·90 (0·57)	1·81 (0·55)	1·86 (0·55)	1·87 (0·50)	1·73 (0·49)	1·82 (0·49)	1·78 (0·45)	p=0·848
Uteroplacental artery	1·20 (0·60)	1·24 (0·80)	1·22 (0·85)	1·41 (1·05)	1·35 (1·10)	1·31 (0·88)	1·26 (0·80)	1·22 (0·83)	1·20 (0·84)	p=0·871