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SHORT COMMUNICATION

Clinical Studies on the Palliative Treatment of Prostatic Adenoma with Extract of *Urtica* Root

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The effects of fluid of roots of *Urtica dioica* and *Urtica urens* on 67 men of over 60 years of age, suffering from prostatic adenoma, were studied. Functional symptoms such as nocturia were alleviated, particularly in less severe cases, and no untoward effects were observed.

Keywords: Urtica; nettles; prostate; dysuria; polyuria; nocturia; incontinence.

INTRODUCTION

Prostatic adenoma, commonly called prostatic enlargement, is very common in men over 60. It is due to the enlargement of the glandular part of the prostate, together with some fibromatous degeneration. Above a certain size, the adenoma starts to obstruct, and eventually block the ureter at the entrance to the bladder, causing urine retention and leading to functional problems such as dysuria, polyuria, nocturia and even incontinence.

Several herbal medicines are used to treat this condition, including pumpkin seeds, *Cucurbita pepo* (Cucurbitaceae); saw palmetto berries, *Serenoa serrulata* (Palmae); tubers of *Hypoxis rooperi* (Hypoxidaceae); and the root and herb of the stinging nettle, *Urtica dioica* and the dog nettle, *U. urens* (Urticaceae). Plant sterols such as β-sitosterol are also used, this compound is ubiquitous in plants and abundant in *Hypoxis rooperi* and *Cucurbita pepo* (Schilcher, 1981; Weiss, 1988; Williamson and Evans, 1988).

Fluid extract of roots of *Urtica* were administered to 67 patients suffering from prostatic adenoma of varying degrees of severity. We used nocturia as the main parameter for evaluating efficacy, since this closely reflects clinical improvement and is less embarrassing for patients than tests such as force of micturition. Bladder volume after urination was measured throughout treatment to see if any reduction in urine retention occurred.

MATERIALS AND METHODS

Preparation of plant material. Roots of *Urtica dioica* and *Urtica urens* were washed, dried and ground, and extracted twice with 40% aqueous ethanol at room temperature to give a 1:1 extract. The clear orange/brown extract was diluted 1 to 5 with ethanol. No further attempt was made to standardize the extract since the active constituents are unknown.

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Clinical study protocol. The 67 patients underwent a rectal and hypogastric palpation examination to confirm the diagnosis. Medical imagery was used to evaluate the prostate volume and also the residual bladder volume post-micturition (BVPM). Microbiological surveillance was carried out to eliminate the possibility of latent infection which would invalidate the results. Prostatic antigen titre was measured to estimate prostate volume, taking into account the fact that this is elevated during the early stages of prostatic carcinoma. Routine blood creatinine and urea levels were measured to ensure that kidney function was normal.

The three criteria used to evaluate efficacy of the extract were: (i) frequency of nocturia, measured as number of times patients needed to micturate during the night; (ii) prostatic volume, measured by medical imagery (echography) and palpation; (iii) bladder volume post-micturition, measured also by echography. Patients were examined at the start of the study (t), again about 2 weeks later at the start of treatment (t_0), after 3 months (t_{90}), after 6 months (t_{180}).

Patients were divided into 3 groups according to frequency of nocturnal micturition, and asked to record the number of times they had to get up in the night to urinate.

Group A: ≤2 micturitions per night; 12 patients.
Group B: ≤3 micturitions per night; 27 patients.
Group C: >3 micturitions per night; 28 patients.

All three groups received the same dose regime; 5 mL of diluted extract every 8 h.

RESULTS

Individual results are given in Table 1.

Group A: ≤2 micturitions per night; 12 patients

(i) Nocturia improved considerably; 10 patients no longer needing to get up in the night. Improvement occurred early in the course of treatment, about 3 weeks after commencement, and was complete within 6 weeks. No further significant improvement was noted between t_{90} and t_{180}. (ii) Prostate volume was unaffected throughout treatment. (iii) BVPM showed a reduction

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corresponding to the decrease in nocturia. In some patients a residual volume remained after nocturia had ceased, indicating that it is the size rather than presence which is significant. Little further reduction occurred between t_{90} and t_{180}.

Group B: ≤3 micturitions per night: 27 patients

(i) Nocturia again improved considerably; in 13 patients disappearing altogether and 10 patients only needing to urinate twice or less per night. In 4 patients

Table 1. Summary of results for the 67 patients

	Frequency of nocturia			Prostatic volume			BVPM (mL)					Blood urea	Blood creatinine
	t_0	t_{90}	t_{180}	t_0	to_{90}	t_{180}	t_0	t_{90}	t_{180}	Age	Bacterial count	(g/L)	(mg/L)
1	C>3	0	0	42	40	40	130	20	20	60	—	0·30	10
2	C>3	0	0	58	59	57	100	30	30	70	—	0·40	14
3	C>3	≤2	≤2	42	43	40	150	70	68	77	—	0·42	10
4	C>3	≤2	≤2	40	37	39	125	68	65	82	—	0·50	15
5	C>3	≥3	≥3	68	55	66	240	180	180	78	—	0·46	13
6	A≤2	0	0	32	30	30	130	30	22	60	—	0·42	13
7	B≤3	≤2	≤1	70	70	70	30	20	20	86	—	0·40	14
8	C>3	≤2	0	70	65	65	165	100	100	69	—	0·56	16
9	B≤3	0	0	24	24	20	40	10	10	67	—	0·42	15
10	B≤3	≤3	≤2	56	56	56	28	28	28	72	—	0·32	9
11	C>3	≤2	≤1	75	75	70	89	78	78	54	—	0·30	12
12	A≤2	0	0	35	33	35	137	32	0	57	—	0·34	8
13	C>3	0	0	36	30	31	35	30	30	66	—	0·31	12
14	B≤3	≤2	≤1	55	45	42	42	30	30	66	—	0·34	12
15	A≤2	0	0	26	20	24	96	28	28	58	—	0·39	10
16	C>3	≤2	≤2	62	60	60	150	85	89	71	—	0·54	16
17	B≤3	0	≤1	26	20	22	93	22	24	69	—	0·50	13
18	B≤3	1	0	48	48	48	30	30	30	68	—	0·46	14
19	B≤3	≤2	≤1	37	35	32	46	44	44	64	—	0·44	14
20	C>3	≤2	≤2	70	69	72	208	96	100	65	—	0·28	12
21	C>3	≤2	≤1	68	66	66	157	72	60	69	—	0·52	16
22	B≤3	0	0	35	22	20	40	12	10	71	—	0·58	18
23	B≤3	≤2	≤1	39	37	32	172	67	60	82	—	0·52	16
24	C>3	0	0	45	25	22	54	5	0	71	—	0·44	17
25	B≤3	≤3	≤3	68	59	62	248	245	220	74	—	0·44	14
26	B≤3	0	0	50	50	50	30	20	20	68	—	0·35	12
27	C>3	≤2	≤1	65	62	60	100	80	78	77	—	0·28	10
28	A≤2	2	2	30	25	25	110	85	80	55	—	0·30	9
29	C>3	≤2	≤1	54	52	52	185	85	80	79	—	0·45	15
30	B≤3	≤3	≤3	66	66	66	11	125	115	68	—	0·46	14
31	C>3	0	0	45	36	30	85	0	0	63	—	0·42	14
32	A≤2	0	0	25	20	20	132	5	0	56	—	0·40	11
33	C>3	≤2	≤2	51	50	50	220	155	200	79	—	0·52	16
34	B≤3	0	0	38	30	30	35	0	5	69	—	0·48	10
35	B≤3	≤2	≤2	69	68	70	138	140	140	77	—	0·52	16
36	C>3	≤2	≤1	40	42	40	102	36	30	85	—	0·58	18
37	A≤2	0	0	58	56	56	42	42	40	66	—	0·48	12
38	B≤3	0	0	28	29	20	175	10	18	80	—	0·58	18
39	C>3	0	0	44	40	41	77	0	0	66	—	0·48	10
40	A≤2	0	0	50	50	51	96	18	8	53	—	0·44	14
41	A≤2	0	0	52	52	52	45	44	42	67	—	0·50	13
42	B≤3	≤3	≤3	41	40	42	240	210	225	80	—	0·56	18
43	C>3	≤2	≤2	62	62	60	189	120	130	85	—	0·56	17
44	B≤3	0	0	37	30	27	118	7	5	67	—	0·46	14
45	C>3	≤2	≤2	59	58	58	150	140	140	81	—	0·54	16
46	B≤3	0	0	32	31	31	170	5	0	73	—	0·50	11
47	C>3	≤2	≤2	64	61	62	250	180	190	87	—	0·50	13
48	B≤3	0	0	66	32	30	105	7	0	71	—	0·42	14
49	B>3	0	0	29	20	21	110	10	15	66	—	0·46	15
50	C>3	≥3	≥3	57	54	54	148	150	150	72	—	0·51	17
51	A≤2	0	0	58	30	30	26	28	28	66	—	0·50	12
52	C>3	0	0	29	25	24	100	0	0	59	—	0·34	11
53	C>3	≤2	≤2	66	66	66	178	110	100	73	—	0·49	14
54	B≤3	0	0	27	25	22	180	20	5	60	—	0·39	13
55	C>3	≤2	≤1	44	42	41	245	70	50	68	—	0·57	18
56	A≤2	0	0	50	50	50	250	28	28	63	—	0·48	10
57	C>3	≥3	≤2	69	68	65	167	150	100	76	—	0·55	17
58	B≤3	0	0	27	21	23	130	40	40	63	—	0·35	11
59	A≤2	0	0	40	43	43	170	8	10	65	—	0·46	15
60	A≤2	≤2	≤1	64	64	64	34	32	34	78	—	0·52	16
61	C>3	≤2	0	51	50	50	125	60	50	57	—	0·30	8
62	B≤3	≤2	≤1	30	31	30	56	54	54	81	—	0·58	18
63	B≤3	≤2	≤2	44	42	41	150	40	50	73	—	0·56	16
64	B≤3	≤2	≤2	38	38	40	180	60	60	69	—	0·40	11
65	C>3	≥3	≤2	68	69	70	110	85	88	78	—	0·56	18
66	B≤3	≤2	≤1	45	40	45	150	70	65	73	—	0·54	16
67	B≤3	0	0	25	25	25	38	0	0	62	—	0·31	12

no improvement was observed. Unlike group A the improvement continued after t_{90}. (ii) Prostate volume again was unaffected throughout treatment. (iii) BVPM showed a decrease corresponding to the decrease in nocturia. The improvement again occurred within the first 3 months, with no further effects between t_{90} and t_{180}.

Group C: >3 micturitions per night: 28 patients

(i) Nocturia improved but to a lesser extent than in the less severe cases: 7 patients no longer needed to get up in the night, 17 found the frequency of episodes of nocturia reduced to two or less per night, and in 4 patients no improvement occurred. (ii) Prostate volume was again unaffected. (iii) BVPM again correlated with the decrease in nocturia.

DISCUSSION

The fluid extract of *Urtica* was found to significantly reduce the frequency of nocturia in these patients, particularly those with the less severe condition, i.e., where the adenoma is not so long standing and has not degenerated so far into fibroma. This correlated with a significant decrease in urine retention. In mild cases symptoms could be relieved within about 3 weeks, in more severe cases longer treatment was required. For those men with frequent nocturia, treatment was less successful, although any improvement is welcome to these patients, since disturbed sleep is debilitating to elderly patients whose general state of health is already lowered.

β-Sitosterol is known to have mild antiinflammatory activity and may be responsible for the effects of some plant remedies (Weiss, 1988), by reducing inflammation and oedema and therefore the size of the glandular part of the prostate. It will not have any effect of fibromatous tissue which is resistant to all treatments except surgery. This partly accounts for the lack of change observed in the overall prostate volume.

Other treatments for prostatic adenoma include drugs which increase bladder and sphincter tone, where malignant disease is not present. Hormonal therapy is not used, since testosterone activates latent carcinoma of the prostate. Surgery is often necessary and is usually successful, however the fluid extract of *Urtica* appears to be a useful therapy for milder cases of prostate adenoma.

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