

## Homeopathic treatment of plantar warts

Michel Labrecque, MD, MSc; Danièle Audet, BSc; Louis G. Latulippe, MD, MSc; Jean Drouin, MD

**Objective:** To evaluate the efficacy of a homeopathic treatment of plantar warts.

**Design:** Randomized double-blind placebo-controlled trial.

**Setting:** Hospital-based family medicine unit.

**Patients:** Patients were recruited from the unit, through advertisements in the local media and through personal contacts with colleagues. Of the 853 people screened between December 1987 and January 1989, 174 met the eligibility criteria (age 6 to 59 years and presence of one or more plantar warts untreated during the previous 3 months) and agreed to participate; 162 (93%) completed the 18-week follow-up.

**Interventions:** The 6-week homeopathic treatment consisted of thuya 30 "centésimal hahnemannien" (CH) (one tube containing 200 pellets weekly), antimonium crudum 7 CH (5 pellets daily) and nitricum acidum 7 CH (one tube containing 200 pellets daily). The placebo pellets were identical to the treatment pellets in appearance and taste.

**Main outcome measure:** The proportion of healed patients; a patient was considered healed if all of the warts had disappeared.

**Main results:** The rates of healing at 6, 12 and 18 weeks were 4.8%, 13.4% and 20.0% respectively in the homeopathic treatment group and 4.6%, 13.1% and 24.4% in the placebo treatment group.

**Conclusion:** The homeopathic treatment was no more effective than the placebo treatment of plantar warts.

**Objectif :** Évaluer l'efficacité d'un traitement homéopathique de la verrue plantaire.

**Conception :** Essai clinique randomisé à double insu avec placebo.

**Contexte :** Unité de médecine familiale en milieu hospitalier.

**Participants :** Les sujets ont été recrutés de l'unité de médecine familiale, par publicité dans les médias locaux et par des contacts avec des collègues. Des 853 personnes évaluées de décembre 1987 à janvier 1989, 174 étaient admissibles (âgés de 6 à 59 ans, présentaient une ou plusieurs verrues plantaires non traitées pendant les 3 mois précédant l'étude) et avaient consenti à participer. Cent soixante-deux sujets (93 %) ont complété la période de suivi de 18 semaines.

**Interventions :** Un traitement homéopathique d'une durée totale de 6 semaines, constitué de thuya 30 «centésimal hahnemannien» (CH) (un tube contenant 200 granules par semaine), antimonium crudum 7 CH (5 granules par jour) et nitricum acidum 7 CH (un tube contenant 200 granules par jour). L'apparence et le goût des granules placebo étaient identiques.

**Mesure des principaux résultats :** La proportion de patients guéris. Un sujet était considéré comme guéri lorsque toutes ses verrues avaient disparu.

**Résultats principaux :** La proportion de personnes guéries à 6, 12 et 18 semaines était de

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*Drs. Labrecque and Latulippe are assistant professors, Ms. Audet is a research assistant and Dr. Drouin is a clinical teacher in the Department of Family Medicine, Université Laval, Sainte-Foy, Que.*

*Reprint requests to: Dr. Michel Labrecque, Unité de recherche clinique en médecine familiale, Centre hospitalier de l'Université Laval, 2705, boul. Laurier, Sainte-Foy, QC G1V 4G2*

4,8 %, 13,4 % et 20,0 % respectivement dans le groupe homéopathie et de 4,6 %, 13,1 % et 24,4 % dans le groupe placebo.

**Conclusion :** La médication homéopathique étudiée n'est pas plus efficace qu'un placebo dans le traitement de la verrue plantaire.

Like other forms of medicine homeopathy is experiencing a resurgence in Canada. More and more patients are seeking advice on the virtues of this 19th-century therapeutic approach, and an increasing number of pharmacies are offering homeopathic medications. Since 1989 the *Compendium of Pharmaceuticals and Specialties*<sup>1</sup> has included a full description of the basis and principles of homeopathy and the names and addresses of companies with homeopathic products. The popularity of homeopathy and the lack of published studies providing evidence of the efficacy of homeopathic drugs prompted us to start a program to evaluate such therapies. In this first report we examine the effectiveness of the homeopathic treatment of plantar warts.

Plantar warts, frequently encountered by family physicians and dermatologists, were chosen for two reasons. First, conventional treatment, which is not always effective, can be delayed for a few months without any risk to the patient's health. Second, a single combination of homeopathic drugs can be prescribed for all affected patients.<sup>2</sup> Usually homeopathic principles dictate that therapy for the same condition must be adapted to each patient. For example, if all types of warts (common, plane, keratotic plantar and mosaic warts, as well as anogenital condylomas) were to be included in a study, various combinations of up to 20 homeopathic drugs could be used according to the "personal field" of the patient and the site and appearance of the wart.<sup>2,3</sup> To perform such a study one must either

have a large number of homeopathic products on hand or restrict the study population to a specific category of individuals; the latter might compromise the availability of subjects and thus the feasibility of the study.

It has been suggested that homeopathic treatment can heal plantar warts in up to 80% of cases.<sup>2</sup> Although a descriptive study tends to support this claim<sup>3</sup> we were not aware of any controlled trials documenting the effectiveness of such treatment. Thus, we conducted a randomized, double-blind, placebo-controlled trial to evaluate the efficacy of a homeopathic treatment of plantar warts.

## Methods

### Subjects

The study was carried out at the Family Medicine Unit of the Centre hospitalier de l'Université Laval (CHUL). Patients were recruited from the unit, through local television, radio and newspaper advertisements and medical newsletters, and through personal contacts with colleagues.

We included patients between 6 and 59 years of age with one or more plantar warts. Any prior treatment of their warts had to have occurred more than 3 months before the beginning of the study. People with mosaic-type warts, those undergoing a prescribed drug treatment and those with a chronic disease or immune deficiency were excluded. Pregnant or breast-feeding women and patients living

Table 1: Reasons for excluding people screened for participation in a trial of a homeopathic treatment of plantar warts

Reason	No. (and %) of patients (n = 853)
Excluded after telephone questionnaire	485 (56.9)
Warts treated in the last 3 mo	127 (26.2)
Patient wanted information only	123 (25.4)
Residence outside local area	69 (14.2)
Other plantar lesions present	67 (13.8)
Chronic disease being treated	47 (9.7)
Warts not of plantar type	24 (4.9)
Age less than 6 or more than 59 yr	21 (4.3)
Patient pregnant or breast-feeding	7 (1.4)
Excluded after physical examination	111 (13.0)
Other plantar lesions found	69 (62.2)
No microthrombi present	24 (21.6)
Wart found to be of mosaic type	18 (16.2)
Refused to participate	83 (9.7)

outside the Quebec City area were excluded for ethical and logistic reasons respectively.

We screened 853 patients from December 1987 to January 1989 by either telephone using a short questionnaire or physical examination by a family physician. A total of 174 patients met our eligibility criteria (Table 1).

### *Intervention*

The 6-week homeopathic treatment consisted of three sets of sugar pellets saturated with diluted tinctures. The first was thuya 30 "centésimal hahnemannien" (CH), a tincture of cedar diluted to 10<sup>-60</sup>. The patients were instructed to allow the contents of one tube to dissolve under their tongue once a week. Each tube contained about 200 tiny sugar pellets saturated with the diluted tincture. The second tincture was antimonium crudum (antimony) 7 CH (dilution 10<sup>-14</sup>); the dosage was five large pellets under the tongue every day. The third tincture was nitricum acidum (nitric acid) 7 CH; the dosage was the contents of one tube containing 200 pellets under the tongue every day. This combined treatment was established by two physicians who practise homeopathy: a dermatologist and a family physician (J.D.).

The patients were randomly allocated to receive either homeopathic treatment (86 patients) or a placebo (88). The drugs were prepackaged and coded for each patient before distribution by a pharmacist at the hospital, who used a table of random numbers. The codes were not known, except by the pharmacist, until analysis of the data was completed. Because the placebo and the treatment pellets were identical in appearance and taste and were not expected to produce any significant side effects complete blinding was achieved.

During the 6-week treatment period a nurse telephoned the patients every 10 days to ensure compliance and to enquire about side effects. At the end of the treatment period compliance was verified by counting the remaining tubes and pellets. A patient was considered compliant if 80% of the medication had been taken.

### *Measurements*

The feasibility of our study depended on the collaboration of clinicians for initial diagnosis of the warts and for evaluation of healing. All 12 family physicians in the Family Medicine Unit agreed to participate, provided that each of them would see only a few extra patients so that their routine activities would not be disturbed too much.

The use of several observers can lead to misclassification bias in patient selection and outcome

assessment. To minimize this problem we set objective criteria for clinical assessment. A wart was diagnosed on the basis of hyperkeratosis, interrupted skin folds and microthrombi. A wart was considered to have disappeared if skin folds were restored at the site previously infected. A patient was considered healed if all the warts had disappeared. A study of the interobserver agreement in the diagnosis of plantar warts and the outcome assessment was done before the study.<sup>4</sup> Because interobserver agreement was moderate (80%,  $\kappa = 0.60$ ) the criteria for assessment were discussed further by all members of the unit, and clinical examples were illustrated on slides during a formal prestudy training session.

To increase the specificity of the clinical diagnosis we included only patients with a diagnosis of at least one plantar wart confirmed independently by two physicians. The amount of healing after 6, 12 and 18 weeks was also assessed independently by two physicians. If the outcome assessments of the two physicians differed a third physician was consulted. We encountered such a situation in only 10 (2.7%) of the 370 clinical assessments.

Despite efforts by the research assistant to encourage patients to come to the hospital for scheduled follow-up assessments, an increasing number did not comply: 29 (16.7%) at 6 weeks, 50 (28.7%) at 12 weeks and 77 (44.3%) at 18 weeks. Most of these patients gave their own assessment of healing to the nurse over the telephone.

Another outcome measure, the patient's perception of treatment effect at 18 weeks, was recorded for all the subjects.

### *Statistical analysis*

Using the software package Power 1.30 (Epicenter Software, Pasadena, Calif., 1985) we calculated that at least 85 subjects would be needed per group. According to the literature we estimated that the warts would disappear within 18 weeks from 50% of the control patients.<sup>5-7</sup> We also estimated that for the homeopathic treatment to be considered clinically effective 75% of the patients would have to be healed. Finally, we set the alpha error at 5% and the beta error at 10% to give a power of 90%. The absolute differences between the two groups are presented with their 95% confidence intervals.

### *Ethics*

The research protocol was accepted by the Ethics Committee of CHUL. All subjects signed a consent form explaining the nature of the two treatments, the randomization process and their right to withdraw from the study if they wished. At the final follow-up visit the patients who still had

plantar warts were offered the opportunity to see a physician at the Family Medicine Unit for conventional medical treatment (liquid nitrogen or keratolytic agents or both).

## Results

The subjects in the two groups were comparable

Table 2: Characteristics of subjects by treatment group

Characteristic	Treatment group; no. (and %) of patients	
	Homeopathic (n = 86)	Placebo (n = 88)
Age < 20 yr	17 (19.8)	33 (37.5)
Female	54 (62.8)	59 (67.0)
Warts present < 1 yr	41 (47.7)	59 (67.0)
Single wart	36 (41.9)	38 (43.2)
Painful warts	46 (53.5)	48 (54.5)
Compliant	83 (98.8)*	83 (95.4)‡
No other treatment	61 (76.3)†	70 (85.4)†

\*Data unavailable for two subjects.

†Data unavailable for six subjects.

‡Data unavailable for one subject.

Table 3: Distribution of subjects assessed at 6, 12 and 18 weeks by treatment group and person who assessed healing

Treatment group	Time of assessment, wk; no. of patients		
	6	12	18
Homeopathic			
Assessed by physician	74	59	46
Assessed by self	10	23	34
Dropped out	2	4	6
Placebo			
Assessed by physician	71	65	51
Assessed by self	16	19	31
Dropped out	1	4	6

with respect to sex, number of warts, presence of pain, compliance, attendance at the hospital for scheduled follow-up assessments and dropout rate (Tables 2 and 3). A follow-up rate of 93% was achieved in each group over the 18 weeks. The proportion of young patients, those who had had warts for a shorter time and those who had not used another form of treatment for their warts were slightly lower in the homeopathic treatment group than in the placebo treatment group.

At the end of the 6-week treatment period the proportion of patients healed was almost identical in the two groups (Table 4). The rate of healing was almost identical at 12 weeks, and a small, insignificant difference was found in favour of the placebo at 18 weeks.

The proportion of patients who perceived improvement at 18 weeks was slightly lower in the homeopathic treatment group than in the placebo treatment group. Again, this difference was not significant. Minor side effects (stomach ache, loose stools, tiredness and pimples) occurred rarely: in two patients in the homeopathic treatment group and in four in the placebo treatment group.

We performed a stratified analysis of the variables potentially associated with the healing of the warts: age, sex, number of warts, pain, age of warts, use of another treatment and outcome assessment by physicians. The results remained the same for all variables except age. In patients under 20 years old, we observed a clinically but not statistically significant difference in favour of the homeopathic treatment at 6 weeks (Table 5). This difference, however, decreased over time and at 18 weeks was neither clinically nor statistically significant.

## Discussion

The homeopathic treatment studied was as ef-

Table 4: Outcome of treatment at 6, 12 and 18 weeks by treatment group

Outcome	Treatment group; no. (and %) of patients		Difference between groups (and 95% CI)*, %
	Homeopathic	Placebo	
Healed			
6 wk	4 (4.8) (n = 84)	4 (4.6) (n = 87)	0.2 (-6.2 to 6.5)
12 wk	11 (13.4) (n = 82)	11 (13.1) (n = 84)	0.3 (-10.0 to 10.6)
18 wk	16 (20.0) (n = 80)	20 (24.4) (n = 82)	-4.4 (-17.2 to 8.4)
Self-assessed improvement at 18 wk	22 (27.5) (n = 80)	27 (32.9) (n = 82)	-5.4 (-19.5 to 8.7)
Side effects	2 (2.4) (n = 84)	4 (4.6) (n = 87)	-2.2 (-7.7 to 3.3)

\*CI = confidence interval.

Table 5: Rate of healing among patients under 20 years of age at 6, 12 and 18 weeks

Time of assessment, wk	Treatment group; no. (and %) of patients		Difference between groups (and 95% CI), %
	Homeopathic	Placebo	
6	3 (17.6) (n = 17)	0 (n = 32)	17.6 (-0.5 to 35.8)
12	5 (29.4) (n = 17)	5 (15.6) (n = 32)	13.8 (-11.3 to 38.8)
18	7 (43.8) (n = 16)	11 (35.5) (n = 31)	8.3 (-21.3 to 37.8)

fective as the placebo treatment in healing plantar warts. Moreover, the rate of healing observed with homeopathy was considerably lower than that reported earlier.<sup>2,3</sup> It was also lower than the average rate of healing obtained with conventional treatments. In a series of controlled trials warts were healed within 3 months after therapy with locally applied keratolytic agents or liquid nitrogen or both in 50% to 80% of patients.<sup>8</sup> Longer treatment periods used in descriptive trials resulted in healing rates of 60% to 90%.<sup>9-11</sup> Our trial was large enough to detect an effect of this size. Given that 24% of the subjects were healed at 18 weeks, the probability of detecting a statistically significant difference between the two groups with a healing rate as low as 50% in the homeopathic treatment group was 90%.

We were careful to minimize sources of bias. The dropout rate, which can cause selection bias in a randomized trial,<sup>12</sup> was reduced to a minimum (7% in each group). Reanalysis of the data and allocation of the best possible outcome to those dropping out of the homeopathy group and the worst outcome to those leaving the placebo group did not change the results. Confounding bias was evaluated through stratified analysis, and none of the variables were found to cause such an error. Misclassification bias was possible because of the self-assessment of the presence or absence of plantar warts by the patients who did not attend the hospital for follow-up assessments. We can assume that in a randomized double-blind trial this misclassification would be nondifferential and would lead to a decrease in the difference between the two groups.<sup>12</sup> This bias likely did not occur, because a stratified analysis showed similar results regardless of who did the outcome assessment, the family physician or the patient.

Although the combination of drugs used in this trial is an acceptable homeopathic treatment of plantar warts<sup>2</sup> other combinations or a longer treatment period might have achieved better results. More research would be necessary to evaluate the efficacy of such interventions. Meanwhile, we do not consider the homeopathic treatment studied to be of clinical benefit in patients with plantar warts.

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