

WARTS IN GENERAL PRACTICE

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Recorder

A RECENT LEADER ON WARTS in the *British Medical Journal* (1961) opened with the following sentences—"Despite a steady flow of papers on the subject of warts, not much progress is made in the control of them. Indeed there is very little real knowledge on the subject". The paper which follows is the result of an attempt by the members of the Northern Home Counties Faculty of the College of General Practitioners to shed further light on the problem, and in particular, to determine the results of differing treatments in the hands of a group of over a hundred general practitioners in their own practices.

The Survey

Preliminary survey. In order to gauge the number of cases that might be collected over a two year period, a pilot survey was carried out. The entire faculty was sent a simple *pro forma*, which asked two questions only; first, "How do you treat warts?" and secondly, "What are your results?". There were 106 replies (40 per cent). The two main factors that emerged were the large number of different methods of treatment used—at least ten separate chemical applications were used, either singly or in combination, in addition to physical methods, such as cautery, excision and diathermy—and the general dissatisfaction with the results—only 29 claimed good or satisfactory results with their favourite methods of treatment.

Materials and methods. The 106 doctors who completed the questionnaire in the pilot survey were asked to record details of all cases of warts seen during the period of the main survey. This was at first intended to be one year, but was extended to two years in order to increase the number of cases. Of these doctors, 42 did in fact record the warts, and there were three more, who joined the project while it was under way. Ultimately, a total of 502 record cards were completed, and in assessing the information, a total of 556 punch cards were extracted from these. Forty-eight of the extra punch cards were necessitated by a change in the original treatment of the wart recorded, and one punch card by the

recording of both a plantar wart and a common wart on the same record card. Finally, five of the record cards gave rise to a third punch card, due to two changes in the original treatment. Eleven of the eventual punch cards related to "false warts" and these have been rejected.

In the analysis that follows, therefore, the aetiological data is extracted from 491 punch cards, and the results of treatment from 545. In the survey there were 214 common warts and 331 plantar warts.

Results

Age distribution and sex incidence. It is apparent from table I that 51 per cent of all warts in this series occurred in the age group 11-15 years. Of these 64 were common warts and 189 were plantar warts—the common warts being 33 per cent of the total number of common warts, and the plantar being 63 per cent of their respective total. This is in agreement with previously published figures—Blank and Rake (1955), and Coles (1958).

The preponderance of plantar warts probably reflects the true incidence of the condition, but may be exaggerated by the fact that pain is usually the presenting symptom, and influenced by the desire of children to show a clean pair of feet at the swimming baths.

TABLE I
AGE INCIDENCE

<i>Age group</i>	<i>Common warts</i>	<i>Plantar warts</i>	<i>Totals</i>
0- 5 years	M. 6 } F. 2 } 8 (67%)	M. 3 } F. 1 } 4 (33%)	12 (3%)
6-10 years	M. 21 } F. 11 } 32 (35%)	M. 22 } F. 37 } 59 (65%)	91 (19%)
11-15 years	M. 32 } F. 32 } 64 (25%)	M. 84 } F. 105 } 189 (75%)	253 (51%)
16-20 years	M. 11 } F. 17 } 28 (61%)	M. 9 } F. 9 } 18 (39%)	46 (9%)
over 20 years	M. 18 } F. 39 } 57 (73%)	M. 11 } F. 10 } 21 (27%)	78 (15%)
age not stated	M. 2 } F. 2 } 4 (36%)	M. 3 } F. 4 } 7 (64%)	11 (3%)
<i>Totals</i>	193 (39%)	298 (61%)	491

Results of treatment (table II). Much difficulty was experienced in assessing the final results of treatment, so it was decided to regard any treatment that did not cause the wart to clear completely within three months as a failure. The question of recurrences after this period was considered to be too difficult to check accurately,

and was not followed up. The main reason for this decision was that though patients could be persuaded to attend their doctors while under active treatment, they were unlikely to return several months after, when "there was nothing wrong with them".

On this basis, the overall cure rate was as follows: 129 (60 per cent) from 214 common warts, and 207 (63 per cent) from 331 plantar warts. That is, out of 545 treatments applied to both common warts and plantar warts, 336 (62 per cent) were successful in clearing the lesion within three months.

The duration of the wart before treatment appeared important in the case of common warts, which gave an 83 per cent overall cure rate when present for less than three months, falling to 56 per cent and 59 per cent in the groups 3-6 months, and over six months respectively. The cure rate for plantar warts appeared to be unaffected by the duration of the lesion.

TABLE II
RESULTS OF TREATMENT

<i>Duration before treatment</i>	<i>Common warts cured</i>	<i>Plantar warts cured</i>
	<i>Per cent</i>	<i>Per cent</i>
Less than 3 months ..	38 (83)	118 (66)
3-6 months	28 (56)	39 (66)
Over 6 months	40 (59)	10 (67)
Not stated	11 (38)	18 (41)
<i>Totals (from 491 cards)</i>	117 (61)	185 (62)

Natural remissions. Our observations were not sufficiently conclusive on this subject, but we have noted that figures as low as 3.1 per cent from Rasmussen (1954), to "30 to 55 per cent . . . in association with suggestion therapy . . ." as quoted by Morse (1956). However, it may well be that the better figures for common warts of less than three months duration are due to spontaneous remission.

In our series, the number of warts present also affected the cure rate. Where there was only one common wart—there were 68 cures (71 per cent). A solitary plantar wart was cured in 127 cases (62 per cent). Where there were two or more common warts, the cure rate fell to 50 per cent (49 out of 97), and where there were more than two plantar warts the cure rate was also 50 per cent (25 out of 49).

Consideration of specific methods of treatment. Assessing the results of individual treatments was made difficult by the fact that these had been applied by 45 different doctors, and that no direction

had been given as to the strength of active substance, or duration of application. However, in tables III and IV, the main results have been summarized, and it can be assumed that the substances were used by each doctor in the manner which he himself considered to be the most efficacious.

TABLE III

RESULTS OF TREATMENT WITH SALICYLIC ACID ALONE OR COMBINED WITH OTHER SUBSTANCES

<i>Treatment</i>	<i>Common warts cured</i>	<i>Plantar warts cured</i>
	<i>Per cent</i>	<i>Per cent</i>
Salicylic acid alone ..	19 (38)	59 (56)
Salicylic acid +podophyllin only ..	12 (60)	20 (54)
Salicylic acid +podophyllin +another treatment ..	12 (92)	14 (86)
Salicylic acid +another treatment ..	9 (75)	12 (67)
NOT podophyllin Salicylic acid ALL CAES	52 (55)	105 (60)

These results have been given in some detail because salicylic acid was used in 271 cases, and podophyllin in 123 cases, in other words, one or the other, or both, were used in 308 cases—well over half the total.

TABLE IV

RESULTS OF TREATMENT WITH PODOPHYLLIN ALONE OR COMBINED WITH SALICYLIC ACID

<i>Treatment</i>	<i>Common warts cured</i>	<i>Plantar warts cured</i>
	<i>Per cent</i>	<i>Per cent</i>
Podophyllin alone ..	11 (58)	9 (53)
Podophyllin + another treatment (always in- cluded salicylic acid) ..	24 (71)	34 (64)
Podophyllin — ALL CASES	35 (66)	43 (61)
ALL CASES with salicylic acid and/or podophyllin	63 (55)	114 (59)

It will be noticed that the cure rate is in the range 50–70 per cent with all these treatments, except where salicylic acid is combined with podophyllin and another substance (see table III). The better average in this case is due to a series of 20 cases treated by one doctor with the following paint: salicylic acid, podophyllin and resorcin

20 per cent of each in industrial spirit. Of these 20, nine were plantar, and 11 were common warts, and all were cured within three months. However, the overall cure rate as shown in these tables is still only 57 per cent—and that is less than the average for the whole survey.

Silver nitrate was used in 37 cases. It was only used as sole agent in 12 of the cases—curing one out of five common warts, and five out of seven plantar warts. When it was used as an adjuvant to curettage (in 20 cases) the cure rate was 75 per cent, but, oddly enough, the cure rate with curettage alone was 91 per cent (41 cures out of 45). Perhaps the silver nitrate was only used when the operator did not feel confident that he had removed the whole wart.

Trichloroacetic acid cured 11 out of 18 warts (61 per cent), being rather more effective with plantar warts than with common ones. The application of carbon dioxide snow gave 30 cures out of 39 (77 per cent), being about equally effective with both plantar and common warts. Formalin alone, only cured four out of 15 plantar warts in this survey, and failed to cure one of the five common warts: when formalin was used in conjunction with another treatment, 12 out of 16 were cured, the four failures being plantar warts. Other substances used in the survey included—paraformaldehyde (5 cases) fuming nitric acid (10), hypnosis or direct suggestion (6), oil of cinnamon (2), ivy leaf plaster in two cases (? suggestion), seabathing (1), Castellani's paint (1), injection of ethamolin (2), Whitfield's paint (3), pure carbolic (5), radium plaque (4), 50 per cent resorcin in glycerine (2), and covering with adhesive strapping only, in a further nine cases.

Finally, the most successful methods of treatment were electrocautery and curettage, and the results are shown in table V.

TABLE V
RESULTS OF TREATMENT WITH CURETTAGE AND ELECTROCAUTERY

<i>Treatment</i>	<i>Common warts cured</i>	<i>Plantar warts cured</i>
	<i>Per cent</i>	<i>Per cent</i>
Curettage alone ..	23 (92)	18 (90)
Curettage + other treatment	7 (87)	15 (65)
Curettage: ALL CASES ..	30 (91)	33 (77)
Electrocautery	12 (80)	26 (87)

Thus curettage and electrocautery together were used in 121 cases, and effected a cure in 101 of them (83 per cent).

Number of attendances. The treatment of warts can be most

time-consuming. Either the patient is left to carry out the suggested method without any supervision—which is often unsatisfactory, or he attends the doctor for this treatment.

In this series, 347 cases were seen less than four times, resulting in cure of 93 (59 per cent) of the common warts, and 114 (60 per cent) of the plantar warts; 127 cases were seen from four to seven times, with 21 (66 per cent) cures of common warts and 62 (65 per cent) of plantar warts. Only 17 cases were seen more than seven times—three common warts cured out of four, and nine plantar warts cured out of 13.

From these figures comes the apparently obvious inference that the more often a wart is treated, the greater is the likelihood of a cure. However, the fallacy in this argument is that the most effective treatment of all—physical removal—is also the one necessitating the least number of attendances.

Hospital treatment. In this series of 491 cases, only 26 were referred to hospital; 15 of these were only referred after they had been attended by their doctor at least four times: 19 of the cases fell in the 11–15 age group.

Discussion

The treatment of warts is largely a problem for general practitioners, as is well borne out by this series of 491 cases, of which only 26 were directed to the hospital. The referral rate may well be higher in areas where a “wart clinic” is run, but it is probable that over 70 per cent of cases are seen exclusively by the general practitioner. This being so, and in view of the large number of differing treatments employed in general practice, there is a need for guidance in selecting the most effective method of treatment. One of the main factors which has to be considered is that many methods are extremely time-consuming. It would appear from our figures that the time a general practitioner spends on each case is not an indication of his cure rate. The many and varied chemical substances used in this survey give an overall cure rate of only about 60 per cent. These methods, by and large, are the ones which take the most time—either of the patient, or of the general practitioner if the case is to be supervised properly. Vickers (1961) found that under close supervision good results were obtained with formalin soaks, but he admits that results depend entirely on the co-operation of the patient and the enthusiasm of the doctor in encouraging persistence with treatment. He quotes Warin (1958) using a similar treatment and claiming cures with only one-half to one-third of his patients. On the other hand, in our survey, electro-cautery and curettage give a cure rate of between 80 to 90 per cent. These physical methods require much less time, and need little supervision after the initial attack on the wart. While considering

these, or any other figures, it is well to consider the spontaneous resolution rate. Rulison (1942) stated that the average duration of untreated warts is between two and three years.

Conclusion

The ideal treatment for warts in general practice should be one that is effective, quick to carry out and to produce results, and requires minimal supervision.

Plantar warts, and common warts that have been present for more than three months, should be treated by curettage or electrocautery.

Common warts of shorter duration should be treated either by suggestion, or by a combination of chemicals such as salicylic acid, podophyllin and resorcin, the latter can be left to the patient to carry out, being relatively innocuous.

That warts do remit, and that they are not in any way dangerous, should be explained to the patient and in the case of children to the parents.

Summary

A survey of the incidence and results of treatment of warts in general practice is reported. The application of various chemicals to the warts showed a more or less uniform cure rate of about 60 per cent. Electrocautery and curettage both gave a much better rate—80 to 90 per cent—and it is suggested that the latter methods should be used for all plantar warts, and for common warts of more than three months duration.

It is stressed that the treatment of warts is more of a general practitioner problem than is customarily realized, and that being so, needs a method that is effective without being time-consuming.

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