

Antiviral Activity of Homoeopathic Medicine *Anagallis Arvensis* on HPV: A Prospective Observational Study

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Abstract:- Warts are generally small, fleshy, grainy, bumps and rough to touch and sprinkled with small black pinpoints, and clotted blood vessels. Warts are caused by the human papillomavirus (HPV) and affect approximately 10% of the population. Homoeopathy is known for giving relief and curing Warts or *Verrucae Vulgaris*. *Anagallis arvensis* is a proven medicine which can be found in homoeopathic sourcebooks and repertories. This study was performed to ascertain the antiviral activity of Triterpene saponin, a phytochemical constituent of the *Anagallis arvensis* against HPV. A prospective uncontrolled observational study with purposive sampling was performed; the patients were selected from the outpatient department. A total of 30 cases, fulfilling the inclusion and exclusion criteria were clinically examined. The number of warts, size and type were recorded before and after the treatment with *Anagallis arvensis* was performed. The Paired T-test was applied and the change in the median Remission of warts was found to be statistically significant. The difference between the mean before and after treatment was 2.03 ± 0.97 , with a P value ($P < 0.001$) on paired t-test which is highly significant, indicating the improvement of cases with the management of *Anagallis arvensis*.

Keywords:- *Anagallis arvensis*, HPV, Antiviral activity, Homoeopathy.

I. INTRODUCTION

Warts are benign noncancerous skin growth that appears when a virus infects the skin's top layer. Warts are caused by the human papillomavirus (HPV) and affect approximately 10% of the population. In school-aged children, the prevalence is as high as 10% to 20%. They are most common among immunosuppressed patients and most meat handlers. It can occur at any age. Although rare in infancy and early childhood. Prevalence increase among school-aged children and peaks at 12 years to 16 years. Warts are twice as common in whites as in black or Asians. The ratio between male-to-female is approximately equal.

HPV viruses 2, 4, 27, 57, and 63 enter the body by trauma and it infects the basal cell layer. In the latent phase (from several months to years) production of viral DNA in basal cell nuclei (only dividing cells in the epidermis), the expression of viral DNA leads to the proliferation of keratinocytes and blood

vessels and finally destroys warts. Warts can be managed by freezing therapy or cryotherapy, laser treatment, strong peeling medicine (salicylic acid and trichloroacetic acid), and surgery. These methods apart from being painful and cumbersome do not always offer a permanent cure and there is a high incidence of recurrence even after these treatments. In many instances, unsightly scars may present [5].

In homoeopathy, it is believed that skin affection is an external manifestation of internal disturbance of vital force. The homoeopathy approach towards treating warts involves boosting the body's immune defence mechanism for the natural elimination of warts leading to almost zero recurrences in future [10]. Homoeopathy is known for giving relief and curing warts or *Verrucae Vulgaris*. *Anagallis arvensis* is a proven medicine which can be found in homoeopathic sourcebooks and repertories [2]. An in-vitro study found an anti-viral activity of a Triterpene saponin, a phytochemical constituent of the *Anagallis arvensis* against several viruses including herpes simplex type 1, adenovirus type 6, vaccinia, vesicular stomatitis and poliovirus by inhibition of cytopathic effect and reduction of virus production [1]. Hence the objective of the study is to know the clinical utility of the anti-viral activity of homoeopathy medicine *Anagallis arvensis* in the management of warts.

II. METHODS

The study was a prospective observational study done on cases of warts attending the out-patient department of GD Memorial Homoeopathic Medical College and Hospital, Patna, Bihar, India and Venkateswara Homoeopathic Medical College and Hospital, Chennai, Tamil Nadu, India. The inclusion criteria were age above 10 years and patients diagnosed with warts of various sizes. The study was performed following the protocol laid down in the 1964 Declaration of Helsinki and the Institutional Ethics Committee Approval approved. Data Collection was done between February 2022 and August 2022. After taking informed consent all the patients included in the study after clinical diagnosis were examined for the number and size of warts, location of warts along with data regarding wart size, type and number were recorded. In the case of multiple warts, the average size was calculated for assessing response. A total of 30 patients who fulfilled the inclusion criteria were initially enrolled on the study for the duration of 06 months. The patients who continued the treatment protocol for 03 months

after the initial consultation were considered for final analysis. *Anagallis arvensis* was used and the potency was selected based on the susceptibility of the patient. *Anagallis arvensis* was administered orally twice daily for 03 months to all the patients half an hour before food and we followed up with the patients till 03 months. The repetition of twice daily was made considering the principles of homoeopathic posology as well as the state and stage of disease, susceptibility of patient, and symptom similarity. The data collected were analyzed and summarized using frequency, percentage, mean and standard deviation. The significance was assessed using the Paired T-test.

In 63% of cases, remission started within 1 month and complete remission was seen in 3 months. The delayed response was seen in 11 cases. In this study number of male patients was 73% and the number of female patients was 27%. Statistical analysis was done using Jamovi software. In the present study, the clearance rates of warts were 23% at 7 weeks, 30% at 8 weeks, 16% at 9 weeks, 4% at 10 weeks and 26% of cases not cleared at 12 weeks, overall clearance rate was 73%. The Mean and Standard deviation of the number of warts before treatment was 2.30 ± 1.42 , and the number of warts after treatment was 0.27 ± 0.45 . The difference between the mean before and after treatment was 2.03 ± 0.97 , with a *P* value ($P < 0.001$) on paired *t*-test which is highly significant, indicating the improvement of cases with the management of *Anagallis arvensis*.

III. RESULTS

Table 1: Statistical Evaluation of the Effect of the Medicine against the Warts before and after Treatment

	N	Mean	Median	SD	SE
Number of Warts Before Treatment	30	2.3000	2.000	1.4179	0.25887
Number of Warts After Treatment	30	0.2667	0.000	0.4498	0.08212

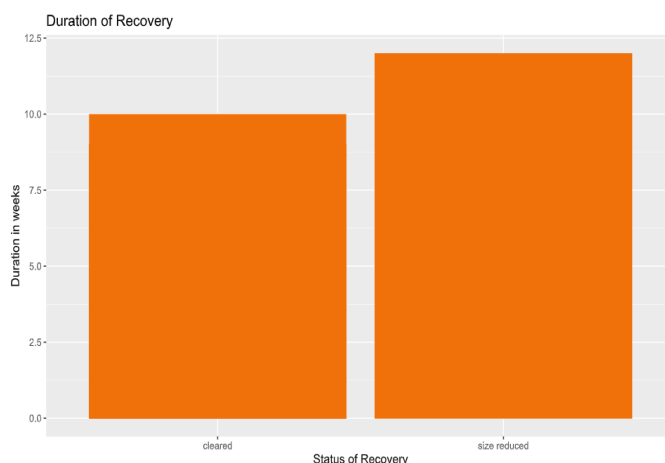


Fig 1: Duration of Recovery

Table 2: Paired T-Test Value of the effect of the Medicine against the Warts before and after treatment

	statistic	df	p	Mean difference	SE difference
Effect of Medicine	9.864	29.00	< .001	2.033	0.2061

IV. DISCUSSION AND CONCLUSION

Warts have been studied by various people in homoeopathy. There are various constitutional and intercurrent remedies available in homoeopathy for warts. *Anagallis Arvensis* is one such remedy which is useful for several warts cases. The clearance rate of warts was 73%, this indicates the antiviral activity of Triterpene saponin, a

phytochemical constituent of the *Anagallis arvensis* in cases of Human papillomavirus, however, and still detailed experimental study with changes in the molecular pathways and inhibition of replication of virus should be documented in the future.

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VI. DECLARATION OF PATIENT CONSENT

We have obtained appropriate consent from the patient.

VII. CONFLICTS OF INTEREST:

There are no conflicts of interest.

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