

## Case Report

# Effect of Moxibustion on Size Reduction and Control of Filiform Warts: A Single Case Report

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### ABSTRACT

Cutaneous warts are the benign epithelial proliferative lesions caused by human papilloma virus infection. Warts have different types, among these filiform warts occur commonly on facial regions. In general population, the incidence is around 10% and is found to be higher in children and young adults. Moxibustion is a form of Traditional Chinese treatment that involves applying heat created by burning herbal materials—either directly or indirectly—to the acupoint or affected area. A 24-year-old male patient has been suffering from a filiform wart with sub-growths on his face in the left infraorbital region, measuring 2mm, for the past 2 years. The patient underwent an indirect, non-scarring moxibustion treatment over the filiform wart for 3 minutes daily, over a period of 21 days, in the OPD of International Institute of Yoga and Naturopathic Medical Sciences. After the 21 days of treatment there was a complete disappearance of sub-growths and decrease in the size from 2mm to 0mm of the filiform wart on assessment through the dimensions calculated using a centimetre ruler and residual discoloration persisted. Also, overall size of the filiform wart was reduced completely along with no further growth for the following months. This is the first single case study showing the efficacy of indirect moxibustion for reducing the filiform wart size. This case study shows that Indirect non-scarring Moxibustion can be an alternate intervention for the size reduction and prevention of filiform wart growth. Future research should aim to optimize the treatment by refining the choice of insulating material and extending the duration of the study to more comprehensively evaluate the therapeutic efficacy of this intervention.

**Key words:** Filiform warts, Moxibustion, Wart treatment, wart prevention, indirect moxibustion

**W**arts, or verrucae, are benign skin growths caused by the human papilloma virus infection (HPV). More than 100 types of HPV exist, and they can infect the skin through small cuts or abrasions. Once the virus enters, it causes rapid cell division, leading to the formation of warts. These can vary in appearance and may be either flat or raised, occurring singly or in clusters. Most warts are painless, but some can cause discomfort, particularly when located on areas subjected to pressure, such as the soles of the feet (plantar warts). In some instances, warts contain small black dots, which are clotted blood vessels. Warts spread easily through skin-to-skin contact or indirect transmission via contaminated objects, such as towels and razors, especially when the skin is moist or damaged [1, 2].

Warts are classified into several types: common warts, plantar warts, flat warts, filiform warts, mosaic warts, and genital warts. Common warts tend to appear on the hands and knees, while plantar warts grow on the soles of the feet, sometimes causing pain while walking [1]. Filiform warts

have a distinct thread-like shape and are often found on the face, while flat warts are small and smooth and typically occur in large numbers [3]. Mosaic warts form in clusters, and genital warts affect the genital area [4]. The prevalence of warts is around 10% in the general population, with a higher incidence among children and young adults, largely due to more frequent skin contact and exposure to communal environments like schools and sports facilities [1]. Multiple treatments are available for warts, though they vary in effectiveness and the time required for resolution. Salicylic acid is one of the most widely used treatments, as it helps exfoliate the thickened skin over time. However, it often requires consistent application for up to 13 weeks [3, 5]. Cryotherapy, which involves freezing the wart with liquid nitrogen, is another popular treatment, offering cure rates of 50-70% after three to four sessions [3, 6].

For warts that are resistant to these methods, alternative treatments such as intralesional antigen injections (e.g., Candida or mumps antigens) can stimulate the immune system to fight off the infection [6]. Photodynamic therapy, which

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involves applying a light-sensitive compound followed by exposure to a specific wavelength of light, is another option, as are surgical interventions like curettage or cautery [6]. In addition to these conventional treatments, traditional therapies such as moxibustion are used in some cultures, particularly in East Asian medicine for common warts [7].

Moxibustion is a form of Traditional Chinese treatment that involves applying heat created by burning herbal materials—either directly or indirectly—to the acupoint or affected area [8]. A bibliometric analysis on the papers published from 1954 to 2007 in China showed that up to 364 kinds of diseases can be treated with moxibustion [9]. Moxibustion involves the application of heat generated by burning dried mug wort (*Artemisia vulgaris*) directly on or near the skin [7, 9]. The heat is believed to stimulate blood flow and promote healing by activating the body's natural defences. There are different types of moxibustion, including direct and indirect methods [10]. In direct moxibustion, the burning material is placed directly on the skin, while indirect moxibustion uses an insulating layer, such as ginger or garlic, between the moxa and the skin [10]. Modern variations of moxibustion use infrared technology to generate heat, allowing for a less invasive approach [9, 10]. This therapy is believed to be cost-effective in treating a variety of conditions, including chronic pain, digestive issues, and dermatological problems like warts [9, 10].

The application of moxibustion in treating warts is based on the principle of stimulating the immune system and improving circulation to help the body clear the virus [10]. Some studies suggest that moxibustion, especially when combined with acupuncture, can enhance the immune response and accelerate the healing process [7, 10]. Although moxibustion is not widely recognized in Western medicine, it has been practiced for centuries in traditional Chinese medicine, where it is used to treat various ailments [9, 10]. Moxibustion is gaining interest as a complementary therapy, particularly for patients seeking non-invasive, alternative treatments, though more research is needed to fully understand its mechanisms [10]. This study aims to address several limitations in current wart treatments including prolonged treatment duration, side effects like skin irritation, pain and discomfort and patients compliance and adherence. Thus, the main objectives of this study is to showcase the efficacy of indirect moxibustion as a non-invasive and the most cost efficient treatment modality for treating filiform warts.

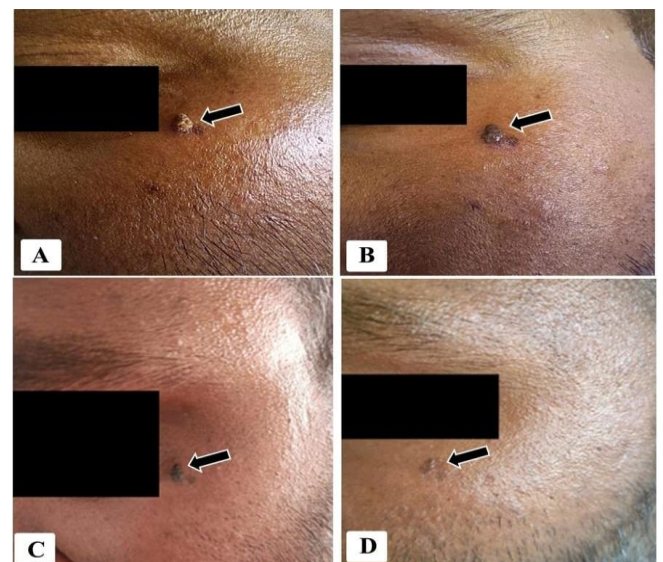
## CASE PRESENTATION

A 24-year-old male patient pursuing his post graduation presented with a single filiform wart on his face, located in the left infraorbital region, measuring 2 mm in size for the past two years. The patient had not sought any treatments initially, as it was not causing any discomfort but, the wart was gradually increasing in size due to frequent rubbing through

daily facial care routine. Lately, it started appearing unappealing in the face so, he subsequently visited the OPD of International Institute of Yoga and Naturopathic Medical Sciences, seeking removal of the wart.

On complete case history taking, it was noted that he was healthy with clear medical history. On examination, a narrow projection with minute sub-projections extending 2 mm from the skin was noted [figure-1] over the left infraorbital region, displaying the typical digitate appearance characteristic of filiform warts.

The intervention involved the application of indirect, non-scarring moxibustion using air as an insulating medium. This technique was administered in the OPD of International Institute of Yoga and Naturopathic Medical Sciences, situated in tropical zone. The patient was made to be in sitting position and the Indirect Moxibustion was given over the filiform wart for 3 minutes daily across a span of 21 days by a well trained Naturopathic physician. The duration was monitored through a prefixed timer and the patient was instructed to immediately inform if there was any discomfort experienced during the procedure. A traditional moxa stick, made from dried mugwort leaves (*Artemisia vulgaris*), was used for the treatment. The burning moxa was held at 4 to 5 cm above the wart, and the heat was withdrawn whenever it became intolerable for the patient, making sure there was no burn marks. The patient was advised to avoid exposure to cold or drafts immediately after the session to ensure the prolonged therapeutic effect. This procedure was repeated every day throughout the 21-day treatment duration.



**Figure- 1:** A- Before intervention which shows the sub growth. B- On 7<sup>th</sup> day of intervention which shows the reduction in sub growth and size reduction. C- On 14<sup>th</sup> day of intervention which shows the complete disappearance of the sub growth and size reduction. D- On 21<sup>st</sup> day of intervention which shows the complete disappearance of wart and the mild discoloration residual.

The outcomes of moxibustion therapy for the filiform wart demonstrated marked clinical improvement. After the 21 days of treatment, though mild residual discoloration persisted, there was a complete disappearance of sub-growths and decrease in size of the filiform wart from 2 mm to 0 mm assessed through the dimensions calculated using a centimetre ruler (Figure-1). The patient reported a noticeable transformation in the texture of the affected area, which had transitioned from rough and irregular to smooth, closely resembling normal, healthy skin. Notably, no adverse reactions or complications were observed during and after the treatment course.

## DISCUSSION

Experimental results have shown that Moxibustion achieves complete wart size reduction in 21 days or 3 weeks. This shows that moxibustion has faster results when compared to Cost-effective conventional therapies like topical application of salicylic acid, which takes around 13 weeks for its result [3]. So Moxibustion can be a preferable non invasive and cost efficient therapy for filiform warts. The thermal stimulation from moxibustion affects both superficial and deeper layers of the skin. The warm-heat effects of moxibustion are closely related to the activation of warm receptors and polymodal receptors. The burning moxa emits a radiation spectrum ranging from 0.8 to 5.6  $\mu\text{m}$ , with a peak near 1.5  $\mu\text{m}$ , which falls within the near-infrared range. Interestingly, there is significant consistency in the infrared spectra of different types of indirect moxibustion, with all peaking around 10  $\mu\text{m}$ , aligning with the infrared radiation spectrum of acupoints [7]. In this method, air is used as the insulating material for indirect moxibustion.

According to Traditional Chinese Medicine (TCM), moxibustion can be classified into three main types: warm nourishing, warm dredging, and warm melting. The warm melting method is used to address conditions such as the reduction of phlegm, elimination of stagnation, expulsion of wind, dispelling of dampness, detoxification, and clearing of heat [9]. Warts, caused by the human papillomavirus (HPV), lead to an overgrowth of skin, disrupting its normal texture and appearance. From the TCM perspective, the warm-melting method of indirect moxibustion is applied to reduce the stagnation or excessive growth resulting from viral infection [9]. From a modern scientific viewpoint, the infrared radiation produced during indirect moxibustion has been found to influence pathological abnormalities, helping to reduce symptoms by promoting physiological changes within the tissues [10].

## CONCLUSION

The findings indicate that moxibustion lead to complete disappearance of sub-growths and reduction of filiform wart size in a shorter duration compared to standard treatments such as salicylic acid. Given, its effectiveness within a shorter

time-frame and minimal side-effects, moxibustion may offer a promising therapeutic approach for filiform wart management. Further research is recommended to validate these results and explore long term outcomes.

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