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Case Report

Tea Tree Oil (*Melaleuca alternifolia*) - An Efficient Treatment for Warts: Two Case Reports

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ABSTRACT

Traditional herbal medicines are a valuable natural resource for preventing and treating diseases, including some infectious diseases. Tea tree oil (TTO) has been used over many years as a traditional treatment for a variety of skin disorders. The oil of the tea tree was used twice daily on two patients to treat their skin warts on different anatomical locations. The wart on the first patient needed 10 days to be totally removed, while it took 20 days in the second patient due to poor medication compliance. This paper sheds light on TTO as an efficient and safe treatment for common warts.

Key words: Tea Tree Oil; TTO; warts; Human Papilloma Virus; HPV; Dermatology

INTRODUCTION


Warts usually occur on humans' hands or feet but can be found in other places on the body. It is thought that warts affect 7–12% of the population. Children of school age have higher warts incidence than children in preschool, with a peak in the teenage years. There are different types of wart; however, it is thought that human papilloma virus (HPV) is the main cause of warts.^[1] Dermatologists use several types of medicines and procedures for treatment of warts; however, salicylic acid is deemed to be the most common treatment prescribed for wart removal. It is effective but must be taken daily for several weeks.^[2] TTO is an essential oil derived from the Australian plant *Melaleuca alternifolia*. In 1920, the New South Wales chief chemist officially identified TTO as an antiseptic. Numerous animal experiments and some pre-clinical and clinical studies have confirmed the activity of TTO as an

anti-fungal, antibacterial, anti-viral and anti-inflammatory agent.^[3] The Australian Aborigines have used TTO for centuries for different medicinal purposes, in particular for skin problems.^[4] This paper describes the efficacy of TTO in treating warts at different anatomical locations.

CASE REPORT

Case one: A 14-year-old boy had a rough and irregular surface lesion associated with proximal phalanges located on the dorsal side of the little finger of the right hand. The wart was not painful and there were no other warts on the boy's body. However, he had a history of recurrent warts and used to treat them with salicylic acid 16.7% w/w and lactic acid 16.7% w/w.

Case two: A 9-year-old boy had a wart on the sole of his left foot. The wart was a round lesion with little black dots. The lesion caused discomfort and was painful when pressure was applied. There were no other warts found on his body, and the patient did not have a history of warts. TTO (100% essential oil, ORGANIKA Health Products Inc., Richmond BC, Canada) was topically applied twice daily for the two patients. Warts were bathed before the TTO was applied using sterile cotton swabs. For the patient in case one, there was a dramatic reduction in the size of the wart in the first three days. After a further seven days, the wart had totally disappeared. For the patient in case two, the reduction in wart size was not as fast as for the patient in case one. The wart needed about 20 days to disappear completely; however, the patient did not comply perfectly with the medication regime.

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DISCUSSION

Oil of tea tree is now used commonly worldwide for its broad-spectrum antimicrobial properties. Therefore, it is available in different dosage forms for treating many infectious diseases. It is used as a lotion for hair and scalp problems such as lice and scabies infestations and dandruff; as a skin cream for acne, eczema, ulcers and pimples; as pessaries for vaginal thrush; and as pastilles for sore throat. In addition, it is widely used in cosmetic preparations, in small concentrations, as a deodorant, a relaxant, and in toothpastes.^[5]

TTO contains various mono and sesquiterpenes as well as aromatic compounds. The monoterpenes terpinen-4-ol, γ -terpinene, α -terpinene, 1,8-cineole, p-cymene, α -terpineol, α -pinene, terpinolene, limonene and sabinene account for about 90% of the oil. It is argued that the monoterpenes terpinen-4-ol, γ -terpinene and linalool are responsible for the antimicrobial activity of TTO.^[6]

Several years of use in a wide range of products has apparently established the safety of TTO to human health. In addition, adverse reporting data, including allergic reactions, indicates that TTO adverse effect reports are very rare with only negligible complaints reported.^[3,7]

Traditional herbal medicines have a considerable history of medicinal use and they remain a vast reserve for discovering new valuable medicines. Some traditional herbal medicines have been extensively studied and there is evidence for their potential benefits and potential risks. However, most of the information relates to their safety and efficacy when these herbs are examined as 'phytopharmaceuticals' and treated in the same manner as conventional medicines. This means that very few studies have been conducted to evaluate the efficacy and safety of traditional herbal medicines and their combinations when used as self-medication, or as recommended by herbal medicine practitioners.^[5]

TTO is very commonly used traditionally and is widely recommended by complementary and alternative medicine (CAM) practitioners; however, its benefits as an antimicrobial agent remain, clinically, unexplored. Very limited clinical trials have examined the efficacy of TTO solely against particular infectious diseases, such as warts. Our findings, along with other reports,^[8] show the effectiveness of TTO for treating skin warts without any adverse effects or allergic skin reactions. These promising

findings, point to the need for further evaluation through randomised clinical trials in order to establish an evidence-based practice of TTO use for this particular indication, and to determine the therapeutic concentration of TTO and the duration of treatment.

A 'comparative effectiveness' study of TTO vs. other conventional medicines used for warts treatment, such as salicylic acid, is also needed. Note the excellent safety profile of TTO compared to salicylic acid, which can damage the skin surrounding the wart area.

One thing appears certain: the use of traditional herbal medicines is rife. Therefore, special attention should be paid to them, in particular those having excellent safety profiles and being well tolerated by patients, as these have the potential to develop into safe and effective medicines. However, clinical trials on traditional herbal medicines are expensive and unlikely to be carried out without the protection of the patent (which is difficult to obtain for these traditional medicines). Nevertheless, scientific evaluation of the efficacy and safety of traditional herbal medicines as a treatment method is urgently required.

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