

CASE REPORT: Socially Disabling Warts

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ABSTRACT

Warts are small viral cutaneous neoplasms which can affect any area of skin. Clinically, they are classified as verruca vulgaris (common wart), verruca plana (flat wart) and verruca plantaris (affecting the sole of the foot). In this case report a Caucasian male aged 69 with a painless exophytic cutaneous neoplasm on the perioral region of the upper lip was treated with 2940 nm Er:YAG laser. 8 days after the treatment there were no signs of inflammation and at the 30-day follow-up, the skin was fully healed. Removal of common warts with the Er:YAG, proved to be effective in controlling and preventing the recurrence of viral infection.

The treatment can be carried out as outpatient procedure and is not associated with any early or late complications. It provides a quick, safe and comfortable treatment for patients.

Key words: Laser, Er:YAG, 2940 nm skin warts.

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I. INTRODUCTION

Any exophytic lesion on skin's surface constitutes a neoplasm (newly formed tissue) which detracts from the normal external appearance of cutaneous tissue. Neoplasms can be benign in nature (cysts, skin tags, angiomas, warts, seborrheic keratoses, etc.), or malignant (basal cell carcinoma, spinous cell carcinoma, melanoma).

Warts are small cutaneous neoplasms that are viral in origin and thus contagious. Viral transmission occurs from human-to-human and may occur directly or via shared items. The presence of micro-injuries or excoriations allows for easier viral penetration and proliferation in situ (self-inoculation).

Warts can affect any area of skin on the body. Clinically, they are classified as verruca vulgaris (common wart), verruca plana (flat wart) and verruca plantaris (affecting the sole of the foot). These can be clearly distinguished from senile or seborrheic warts,

which are symptomatic of a slow and progressive degenerative process within the skin, typical of aging. When found on the face, hands or lips, they can impact a patient's well-being and social relationships. [1, 2]

II. CASE

A Caucasian male aged 69 exhibited a painless exophytic cutaneous neoplasm on the perioral region of the upper lip, with the same color as the surrounding skin and progressively increasing volume.

Past medical history did not reveal any significant pathologies. Regarding the presenting complaint, the patient stated having noticed a small skin growth near the upper lip among the facial hair, which became increasingly obvious over the proceeding months, making it difficult and awkward to shave. The lesion was completely painless.

Clinical examination revealed a digitiform, nodular cutaneous neoplasm on the perioral epidermis adjacent to the upper lip, firm and elastic in consistency, mobile, skin-colored and around 4 mm x 3 mm (Fig. 1) in size.



Fig. 1: Digitiform on the perioral epidermis

a) Diagnosis and indications for laser therapy

The history and clinical examination suggested a working diagnosis of verruca vulgaris. Laser-assisted treatments for warts encompass various types of laser. All wart types may be treated with laser therapy.

In this specific case of a common wart in a key aesthetic location, treatment with an Erbium laser (Er:YAG) 2940 nm was arranged. The 2940 nm wavelength (Er:YAG) is characteristic of a superficial laser whose biological target (chromophore) is the water within the tissues. The energy produced by the laser light is rapidly absorbed, penetrating the skin's surface by a few μm (3-5). Rapidly absorbed by the water within the tissues, the laser light releases heat energy which vaporizes the wart with minimal thermal collateral damage. [3, 4, 5, 6, 7]

b) Contraindications

There are no absolute contraindications to laser wart treatment. In the presence of bacterial superinfection, differentiated treatment following appropriate antibiotic therapy is advisable. The only genuine contraindication is refusal by the patient to undergo laser treatment.

c) Alternative treatments

Available treatments include cold scalpel surgical removal and suturing, or treatments such as electrocoagulation, cryotherapy or retinoic acid cream application. [1, 2]

d) Informed consent

The therapy plan was explained to the patient in detail, accompanied by complete and exhaustive information on alternative treatments. The patient agreed to undergo the suggested laser therapy and signed a consent form in the presence of a witness. The signed consent form was kept in the patient's file.

e) Treatment plan

- **Treatment objective**

The goal of this treatment is wart removal using a 2940 nm Erbium laser (Er:YAG), without causing any noticeable intra- or post-operative complications.

- **Operational laser settings**

Erbium laser (Er:YAG): R14 handpiece, conical tip Ø 800 μm (Fig. 3), power 2 W, energy 100 mJ, frequency 20 Hz, MSP (100 μs) Fotona technology, air and water 0 (Fig. 2).



Fig. 3: R14 handpiece

- **Treatment sequence**

Prior to the procedure (Figure 1), we checked the equipment's functioning and applied personal and environmental safety devices. We then isolated the surgical field, disinfected with Citrosil and injected local anesthetic with adrenaline (0.6 ml).

The settings of the 2940 nm Er:YAG laser (Fig. 2) were once again checked and the R14 handpiece with conical tip was positioned tangentially against the lesion. The lesion was held with surgical tweezers and excised. We opted to excise rather than vaporize the lesion since this would allow for a definitive diagnosis via histological analysis (Figure 4).

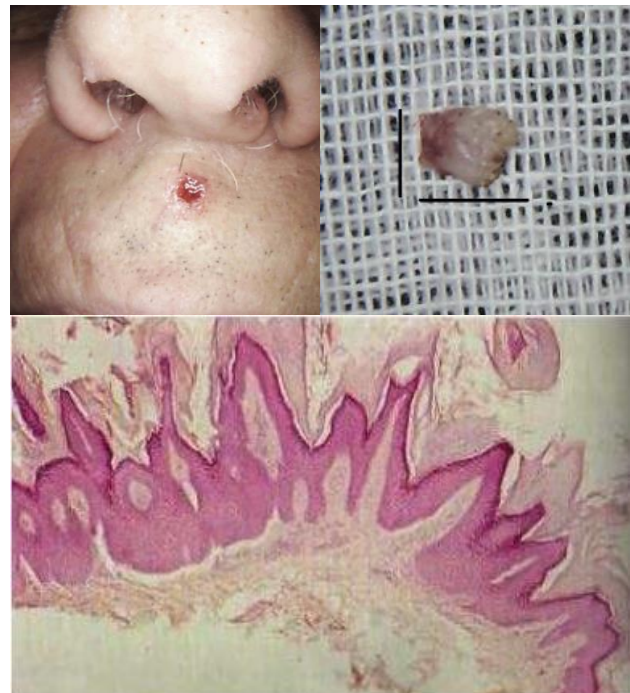


Figure 4: Lesion removal procedure and histological analysis

- **Post-operative treatment**

The patient was instructed to apply a gentamycin-based antibiotic cream (Gentalyn) twice a day for the first 3 days after washing his face and not to shave for a week. From the third to the eighth day, he was advised to use a moisturizing cream after cleansing. We also recommended he avoid sun exposure and not remove the thin crust which would form.

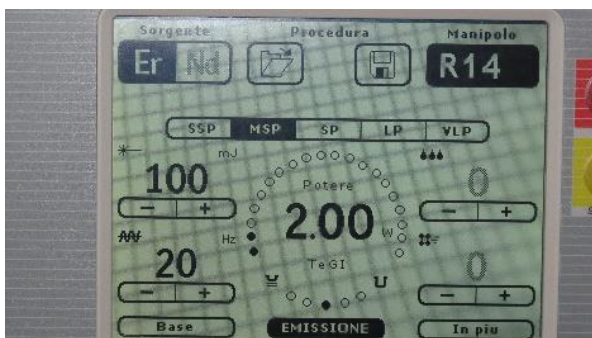


Fig. 2: Laser parameters selection screen

- **Data processing**

All of the procedural details, both general and laser-related, are included in the patient's file alongside the consent details. The information in the file thus reflects the treatment described above.

f) Post-operative complications

There were no local or systemic complications resulting from the procedure.

g) Remote follow-up

The patient was followed up at 8 and 30 days, and remotely at 3 and 6 months.

At 8 days, there were no signs of inflammation (Fig. 5). The patient reported that the thin crust fell off on the sixth day. On examination, a more pinkish color was observed due to the recent skin regeneration.



Fig. 5: Treated area 8 days after the procedure

At the 30-day follow-up (Fig. 6), the skin was fully healed with no scar contraction and remained so at subsequent follow-ups at three and six months.



Fig. 6: Treated area 30 days after the procedure

III. CONCLUSIONS

Common wart removal with the Erbium laser (Er:YAG, 2940 nm) proved to be effective in controlling and preventing the recurrence of viral infection.

This can be carried out as a day case (outpatient) and is not associated with any early or late

complications. It is a quick, safe and comfortable treatment for patients, who are able to resume their ordinary lives straight away.

Lastly, the healing time is quicker and the long-term outcome aesthetically superior to what is offered by alternative methods.

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