

CASE AND RESEARCH LETTER

[Translated article] Lip Papillomas in Cowden Disease: Carbon Dioxide Laser Vaporization



Papilomas labiales en la enfermedad de Cowden. Vaporización con láser de dióxido de carbono

To the Editor,

Cowden disease is currently included in *PTEN* hamartoma tumor syndrome, which includes a number of diseases linked to germinal mutations of the *PTEN* gene.¹

It is an autosomal dominant hereditary process characterized by the presence of malignant tumors in different organs (especially breast, thyroid, and endometrium) and benign proliferations in many tissues (skin, colon, thyroid, etc.).

Almost all of these patients present skin lesions, which include facial trichilemmomas, papillomatous lesions, especially in the oral and labial mucosa, acral keratosis on the palms and soles, sclerotic fibromas, lipomas, mucocutaneous neuromas, inverted follicular keratosis.²

We report a patient with Cowden disease with papillomatous lesions on the upper lip, which were treated with CO₂ laser with excellent results.

A 26-year-old woman diagnosed with Cowden disease presented with hyperkeratotic lesions on the upper lip, which had grown progressively in the previous years (Fig. 1). The lesions caused discomfort due to chapping of the lips and a considerable cosmetic impact.

A detailed clinical examination revealed that the patient presented acral keratosis and macrocephaly. She presented no other facial or oral lesions. The genetic study revealed a nonsense heterozygous mutation on exon 5 of the *PTEN* gene (p.R130X). The genetic study performed on the parents was negative.



Figure 1 Hyperkeratotic lesions with a verrucous appearance on the upper lip.

By agreement with the patient and following the provision of signed informed consent, treatment with CO₂ laser was performed.

After applying an antiseptic solution of chlorhexidine, a local anesthetic was injected (mepivacaine, 2% without epinephrine) and treatment with the CO₂ laser began (SE-20-30 W Franckline, Intermedic, Barcelona, Spain). Treatment was performed in superpulse mode at 5 W/cm², initially focused to eliminate the keratotic component. The vaporized tissue was removed using a dressing impregnated with saline solution and the laser was passed over the area again in a more defocused manner. Bleeding of the lesion was minimal and was brought under control with the second pass of the laser. The area was treated with a mupirocin antibiotic ointment and a nonadhesive occlusive dressing.

The patient was evaluated after 2 weeks, when scarring is complete, and, later, after 3 months. The cosmetic result obtained was excellent (Fig. 2), with no abnormal texture or pigmentation, and the lesions had not returned after 5 years of follow-up.

The mucocutaneous manifestations of Cowden disease normally lead to diagnosis and are present in 99% of patients.³

Some of these lesions are considered pathognomonic and form part of the major criteria of the disease, such as facial trichilemmoma, acral keratosis, and papillomatous lesions.

The papillomatous lesions tend to be located oral cavity, on the lips, tongue, oral and gingival mucosa, and in just a

DOI of original article:

<https://doi.org/10.1016/j.ad.2020.08.018>

<https://doi.org/10.1016/j.ad.2022.05.002>

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Figure 2 Excellent cosmetic result after treatment with CO₂ laser.

few extreme cases, they are severe enough to produce oral florid papillomatosis.⁴ They generally present in the second decade of life and are asymptomatic and progress slowly. Presentation exclusively as labial lesions is rare.

These lesions are not only present in Cowden disease but are also presented in the entire spectrum of syndromes associated with PTEN mutations.¹ Moreover, several entities may present similar lesions, including linear epidermal nevus, nevus sebaceous syndrome, focal dermal hypoplasia, ectrodactyly-ectodermal dysplasia clefting syndrome, Costello syndrome, and acanthosis nigricans.⁵

The reason for treating these lesions is cosmetic and, in some cases, when they are notable for producing cracked lips and secondary superinfection.

Surgical treatment may be a therapeutic option in these patients, where a vermilionectomy might perhaps be performed, although this is probably an excessively aggressive approach.

We believe that CO₂ laser is a simple and easy-to-use option with little morbidity, few adverse effects, easily repeatable in the event of recurrence, and with excellent functional and cosmetic effects. To obtain a good cosmetic result and avoid adverse effects, predominantly ablative modes of treatment should be used with minimal heating; for this reason, we used the superpulse mode.

CO₂ laser has been described for the treatment of trichilemmoma associated with Cowden disease,⁶ but we have found no references associated with labial papilloma.

In conclusion, CO₂ laser ablation is an excellent therapeutic option in labial papilloma associated with Cowden disease, with excellent cosmetic results and with no notable adverse effects.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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J. del Pozo Losada^{a,*}, J.M. Barja López^b

^a *Servicio de Dermatología, CHU A Coruña, Spain*

^b *Servicio de Dermatología, Hospital del Bierzo, Ponferrada, León, Spain*

* Corresponding author.

E-mail address: jesus.del.pozo.losada@sergas.es (J. del Pozo Losada).