Treatment of Fordyce Spots With CO₂ Laser

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BACKGROUND. Fordyce spots are heterotopic sebaceous glands that can be located at the lips' vermilion or the oral mucosa. Although this is considered a rather common disorder, a treatment for this condition that sometimes affects patients from only a cosmetic viewpoint has not yet been described. OBJECTIVE. To evaluate CO₂ superpulsed laser treatment in two subjects with Fordyce spots.

METHODS. Two patients with papules and yellowish plaques at the upper lip corresponding to Fordyce spots were treated with coherent Ambulase CO₂ superpulsed laser (Coherent Medical, Palo Alto, CA); after informed consent was obtained, two to three passes were performed in one session using 2 and 4 W and a spot size of 2 mm.

RESULTS. Complete re-epithelization was observed 2 weeks later with no residual Fordyce papules in the treated area and no side effects.

CONCLUSION. Our findings suggest that CO₂ superpulsed laser can be considered a safe and effective treatment for patients with Fordyce spots, offering excellent cosmetic results.

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FORDYCE SPOTS are heterotopic sebaceous glands. They are clinically manifested as small whitish or yellowish papules that are confluent and that occasionally form plaques. They are located in different sites inside the oral cavity, mainly at the upper lip vermilion, retromolar area, and buccal mucous.

This disorder affects both genders¹ and can be found in 80% of patients.^{1–4} Even though the sebaceous glands are present since birth, this condition is not common before puberty, developing during this period in response to the gonadal and adrenal androgenic hormones.^{2,4}

The sebaceous glands associated with hair follicles are present along the entire body's skin, excluding palms, soles, and sometimes the foot dorsum.^{2,5,6} They can be found in a modified variety in areas such as nipples and areola (Montgomery areolar spots), in the labia minora, and at the prepuce (Tyson glands). When found at the lips' vermilion and even anywhere in the buccal mucosa, they are called Fordyce spots.^{1,2,5,7,8}

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Bonafé et al. ⁸ reported Fordyce papules in areola, and Massmanian et al. ⁹ reported them on the glans penis. Because the Fordyce spots are sebaceous glands that are free of sebaceous ducts, they directly commu-

nicate with the surface,⁵ considering then that heterotopic or ectopic sebaceous glands^{1,6,9} can be accompanied by blackheads.⁶

Histopathologically, they are normal sebaceous glands, consisting of a group of mature sebaceous lobes surrounding small ducts that emerge at the epithelium surface.^{1,4}

In dermatologic literature, a treatment for this disorder has not been published, mainly because it is not considered a pathologic condition. This fact motivated us to report the cases of two patients with Fordyce spots who were successfully treated with CO₂ superpulsed laser.

Case Report 1

A 28-year-old male patient with multiple papules and yellowish plaques on the upper lip since puberty (compatible with Fordyce spots) is reported (Figure 1). Using prior regional block and local infiltration with 2% Xylocaine and 1:100,000 epinephrine, we performed a procedure with Coherent Ambulase superpulsed CO₂ laser (Medical group). Power of 2 W, a spot size of 2 mm, and three passes removed necrotic tissue with a gauze soaked in physiologic solution between passes (Figure 2). Ciprofloxacin 500 mg twice daily was prescribed for 7 days, as well as neomycin–polymyxin B ointment and bacitracin three time daily for 10 days.

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Figure 1. Clinical appearance before treatment of Fordyce spots.

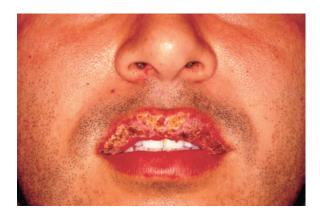


Figure 2. Immediately after the treatment.



Figure 3. Nine months after treatment.

Analgesia with 10 mg of ketorolaco tromethamine was used. The patient was evaluated after 1 week of treatment, getting an excellent re-epithelization and good cosmesis (Figure 3). After 9 months, there have not been any recurrences in the treated area.

Case Report 2

A 33-year old male is reported; he had multiple, asymptomatic, white-yellowish stippling papules on



Figure 4. Clinical appearance before treatment of Fordyce spots.



Figure 5. Immediately after the treatment.

the upper lip since puberty. These were compatible with Fordyce spots (Figure 4). After the patient understood the benign nature of this disorder, he insisted in receiving treatment for cosmetic reasons. Therefore, after obtaining informed consent, we performed a CO₂ laser therapeutic treatment on only a small area. The procedure was performed under regional block and local infiltration with 2% Xylocaine and epinephrine 1:100,000 using Coherent Ambulase superpulsed CO₂ laser (Medical group). These energy settings were used: 4 W, a spot size of 2 mm in defocused mode, with continuous exposure time and two passes (Figure 5).

Antibiotic therapy was given with 250 mg of cefprozil for 7 days, as well as mupirocin ointment bid. He was evaluated 1 week later showing partial reepithelization, which was completed 10 days later (Figure 6).

Discussion

Fordyce spots are discussed only briefly in dermatologic literature, as they are considered a normal variation, not taking into consideration the patient's need for cosmetic improvement. Drore and Sexton¹



Figure 6. One month after treatment.

considered that no treatment is required for this disorder and agreed with Monk, ¹⁰ who reported a patient who had Fordyce spots and who had acne and was receiving isotretinoin, observing that these lesions disappeared while in treatment and recurred when it was interrupted. However, he did not consider it the proper therapeutic method for this disorder.

CO₂ laser is the most versatile laser within the dermatologic field. It is used as a cutting instrument or as a scalpel, causing ablation and tissue vaporization, allowing hemostasis during procedure, minimum edema, and postoperative pain. ^{11,12,14}

The superpulsed mode allows high energy peaks, limiting in this way the thermal damage to the cutting area.

We chose this method based on our therapeutic experience of CO₂ superpulsed laser for benign glandular tumors. Along with the excellent results obtained with this therapeutic modality in actinic cheilitis, it is considered a therapeutic option, offering minimum scars, less pain, shorter healing time, and good cosmesis. ^{12,13,15}

Our findings allow us to suggest that CO₂ superpulsed laser treatment is safe and effective in patients

with Fordyce spots and can be considered an ideal therapeutic tool for this entity, which has not been discussed extensively before in dermatologic literature.

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