

# Treatment of Fordyce Spots With CO<sub>2</sub> Laser

JORGE OCAMPO-CANDIANI, MD, ADRIANA VILLARREAL-RODRÍGUEZ, MD, ALBA G. QUIÑONES-FERNÁNDEZ, MD, MAIRA E. HERZ-RUELAS, MD, AND JAVIER RUÍZ-ESPARZA, MD

*Medipiel Centros Dermatológicos, Monterrey, NL, México*

**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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> superpulsed laser can be considered a safe and effective treatment for patients with Fordyce spots, offering excellent cosmetic results.

J. OCAMPO-CANDIANI, MD, A. VILLARREAL-RODRÍGUEZ, MD, A. G. QUIÑONES-FERNÁNDEZ, MD, M. E. HERZ-RUELAS, MD, AND J. RUÍZ-ESPARZA, MD INDICATED NO SIGNIFICANT INTEREST WITH COMMERCIAL SUPPORTERS.

FORDYCE SPOTS are heterotopic sebaceous glands. They are clinically manifested as small whitish or yellowish papules that are confluent and that occasionally form plaques.<sup>1</sup> They are located in different sites inside the oral cavity, mainly at the upper lip vermilion,<sup>2</sup> retromolar area,<sup>1</sup> and buccal mucous.

This disorder affects both genders<sup>1</sup> and can be found in 80% of patients.<sup>1-4</sup> 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.<sup>2,4</sup>

The sebaceous glands associated with hair follicles are present along the entire body's skin, excluding palms, soles, and sometimes the foot dorsum.<sup>2,5,6</sup> 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.<sup>1,2,5,7,8</sup>

Bonafé et al.<sup>8</sup> reported Fordyce papules in areola, and Massmanian et al.<sup>9</sup> 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,<sup>5</sup> considering then that heterotopic or ectopic sebaceous glands<sup>1,6,9</sup> can be accompanied by blackheads.<sup>6</sup>

Histopathologically, they are normal sebaceous glands, consisting of a group of mature sebaceous lobes surrounding small ducts that emerge at the epithelium surface.<sup>1,4</sup>

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 CO<sub>2</sub> 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 CO<sub>2</sub> 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.

Address correspondence and reprint requests to: Jorge Ocampo-Candiani, MD, Medipiel Centros Dermatológicos, Av. Real San Agustín 406 Col. Residencial San Agustín, Garza García, NL, México, C.P. 66260, or e-mail: jocampo2000@yahoo.com.mx.



**Figure 1.** Clinical appearance before treatment of Fordyce spots.



**Figure 4.** Clinical appearance before treatment of Fordyce spots.



**Figure 2.** Immediately after the treatment.



**Figure 5.** 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

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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 re-epithelization, 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 Sexton<sup>1</sup>



**Figure 6.** One month after treatment.

considered that no treatment is required for this disorder and agreed with Monk,<sup>10</sup> 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.

CO<sub>2</sub> 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.<sup>11,12,14</sup>

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 CO<sub>2</sub> 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.<sup>12,13,15</sup>

Our findings allow us to suggest that CO<sub>2</sub> 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.

## References

1. Drore E, Sexton J. Disorders of oral membranes. In: Arndt KA, LeBoit PE, Robinson JK, et al. *Cutaneous Medicine and Surgery*. Philadelphia: WB Saunders, 1996;2:1323-39.
2. Dover J, Arndt K, LeBoit PE, et al. *Pocket Guide to Cutaneous Medicine and Surgery*. Philadelphia: WB Saunders, 1996:513-31.
3. Hashimoto K, Lever WF. Tumors of skin appendages. In: Freedberg IM, Eisen AZ, Wolff K, et al., eds. *Fitzpatrick's Dermatology in General Medicine*, 5th ed. New York: McGraw-Hill, 1999;1:890-914.
4. Elder D, Elenistas R, Ragsdale BD. Tumors of the epidermal appendages. In: Elder D, Elenistas R, Jaworsky C, et al., eds. *Lever's Histopathology of the Skin*, 8th ed. Philadelphia: Lippincott-Raven, 1997:747-803.
5. Downing DT, Stewart ME, Strauss JS. Lipids of the epidermis and the sebaceous glands. In: Freedberg IM, Eisen AZ, Wolff K, et al., eds. *Fitzpatrick's Dermatology in General Medicine*, 5th ed. New York: McGraw-Hill, 1999;1:144-55.
6. Arnold HL. Fordyce spots. *Arch Dermatol* 1974;110:811.
7. White CR, Bigby M, Sanguenza OP. What's normal skin. In: Arndt KA, LeBoit PE, Robinson JK, et al., eds. *Cutaneous Medicine and Surgery*. Philadelphia: WB Saunders, 1996;2:30.
8. Bonafé JL, Pech JH, Cambon L, et al. Guess what! Fordyce spots on the areola. *Eur J Dermatol* 1997;7:601-02.
9. Massmanian A, Sorni VG, Vera SFJ. Fordyce spots on the glans penis. *Br J Dermatol* 1995;133:498-500.
10. Monk BE. Fordyce spots responding to isotretinoin therapy. *Br J Dermatol* 1993;129:355.
11. Glassberg E, Walker K, Lask G. Laser in Dermatology. In: Lask GP, Moy RL, eds. *Principles and Techniques of Cutaneous Surgery*. New York: McGraw-Hill, 1996:445-67.
12. Fitzpatrick RE, Goldman MP. *Cutaneous Laser Surgery: The Art and Science of Selective Phototermodolysis*. St. Louis: Mosby, 1994;5:199-258.
13. Fitzpatrick RE, Goldman MP, Ruiz-Esparza J. Clinical advantage of CO<sub>2</sub> laser superpulsed mode. *J Dermatol Surg Oncol* 1994;20:449-56.
14. Alster TS, West TB. Ultrapulse CO<sub>2</sub> laser ablation of xanthelasma. *J Am Acad Dermatol* 1996;34:848-9.
15. David LM. Laser vermilion ablation for actinic cheilitis. *J Dermatol Surg Oncol* 1985;11:605-8.