TITLE PAGE

TITLE: Safety and Efficacy of Single Pass Versus MultiPass emission with 755 alexandrite Laser for All-Skin-Type Hair Removal: a pilot study

Running head: Motus AX for hair removal and pseudofolliculitis cutis

Manuscript word: 2998

Figure count: 2

Table: 5

Author names and affiliations

Bonan P. MD,[1] Troiano M. MD [1], Verdelli A. MD [1]

[1]Laser Cutaneous Cosmetic & Plastic Surgery Unit, Villa Donatello Clinic, Florence, Italy

Corresponding author:

Dr. Alice Verdelli

Laser Cutaneous Cosmetic & Plastic Surgery Unit, Villa Donatello Clinic

Via Attilio Ragionieri, 101

50019 Sesto Fiorentino, Florence, Italy

Phone: +39 055 50975

Fax: +39 055 5097712/5097800

E-mail: alice.verdelli@hotmail.it

KEY WORDS

Hair removal, pseudofolliculitis cutis, 755 nm Alexandrite, Motus AX, Moveo

Conflict of interest: none
Financial disclosure: none

ABSTRACT

INTRODUCTION: Lasers are considered the most efficient methods for hair reduction. The goal of these devices is to provide long-term effects without adverse reactions.

OBJECTIVES: This is a randomised split-body controlled study on body hair removal and pseudofolliculitis (PFC) treatment, comparing the standard Single Pass (SP) emission with the MultiPass emission (Moveo handpiece) with 755 alexandrite laser.

MATERIAL AND METHODS: Patients with Fitzpatrick skin types I-VI underwent laser hair removal, by treating one side of the body using the standard SP and the other side with Moveo. Treated areas included face, arms, legs, trunk, axillae and groins. Each patient underwent a minimum of three to a maximum of eight treatments, every 6 weeks, with a 6-month follow-up. Hair reduction, side effects, PFC severity score and patient satisfaction were recorded for all patients.

RESULTS: Totally, 108 patients were enrolled, of whom 96 were female. The overall hair reduction rate (% ± SD), independent of skin type, was estimated as 87 ± 5.5 for standard SP and 78.5 ± 7.6 for Moveo. No significant statistically differences were found between the two groups. Side effects included pain, which was higher after standard SP (4.2 ± 0.8) than after Moveo treatment (1.5 ± 0.5). A statistical significant difference between the two devices was found (p=0.0002). PFC score improved in almost all the patients. Patients declared to be satisfied with both the treatments, reporting a preference for Moveo (84% vs 16%) (p=0.01).

CONCLUSION: Standard SP and Moveo 755 alexandrite laser seems to be safe and effective treatments for hair removal in all Fitzpatrick skin types and for PFC. Moveo has a higher security profile with fewer side effects.

TEXT

INTRODUCTION

Laser devices are currently the most commonly requested cosmetic procedure for hair removal, providing long-lasting effects (Thomas, 2019). Lasers have become increasingly popular not only to remove unwanted hairs, but also to treat pseudofolliculitis cutis (PFC), a chronic inflammatory response to ingrown hair (Jasterzbski, 2015).

Lasers work on the principle of selective photothermolysis, whereby photons destroy the hair follicle while sparing the surrounding tissue (Dorghman, 2019; Patil, 2008). Laser systems are the most effective for people who have light skin and dark hair, while the abundance of melanin in the epidermis of patients with dark skin color has always required more complex management, due to the increased incidence of side effects in this patient population (Fayne, 2017; Gan, 2013).

Among laser devices, photo-epilation by alexandrite laser systems have shown an average 70–80% hair reduction after few laser sessions (Nisticò, 2018; Toosi P, 2006; Freedman, 2000), with a peak of 96% in Korean women (Moon, 2012). The alexandrite laser is a solid state laser that emits at 755 nm, which allows for a greater depth of penetration, but with more melanin absorption compared to other laser systems (Tatlidede, 2005). The use of cooling devices allow the laser operator to deliver effective energy to the dermal target whilst protecting the epidermis from thermal injury. Although effective, they could be associated with pain and side effects including erythema, perifollicular

edema, hypo/hyperpigmentation, vesicle, crusting and burns, especially when treating dark or tanned skin (Tatlidede, 2005; Gan, 2013).

To reduce side effects, novel technologies have been developed. Among them, the Motus AX (DEKA, Calenzano, Italy) system has been succesfully used (Nisticò, 2018). It is a 755 nm alexandrite laser with both a standard Single Pass (SP) and a MultiPass (Moveo) emission method. The standard SP is characterized by a single emission delivered on each treatment area with high fluence. The Moveo is a new techonology characterized by multiple emissions in the area of treatment with low fluences. A special handpiece with integrated cooling, called Moveo, makes it possible to use fluid continuous movements over the treatment area by performing multiple steps so as to give this area an adequate progressive therapeutic dose without overheating the skin.

In this randomised split-body controlled study on hair removal, we aimed at comparing the standard SP emission with the Moveo 755 alexandrite (Motus AX) laser. Our objective was to assess the efficacy and the safety of these lasers in all skin types, especially in the darker phototypes. Moreover, we evaluated the role of 755 alexandrite laser in the treatment of PFC.

METHODS

Patients selection

Patients were enrolled at Villa Donatello Clinic, Florence, Italy, in an 18-month period.

Volunteers of both sexes, skin Fitzpatrick's type I-VI, seeking unwanted body hair removal, with or without PFC, were included if they were > 18 years of age at the time of enrollment.

The exclusion criteria included: pregnancy or breastfeeding; hypernadrogenism conditions and anti-androgen treatment; previous laser hair removal treatments; chronic systemic diseases; history of photosensitivity; use of photosensitizing drugs; active or recurrent skin infections; tattoo on the area to be treated; skin tanning in the previous 3 months.

The study was conducted in accordance with the Declaration of Helsinki. Before starting the study, informed consent was obtained from all of the participants.

All the patients gave consent to the use of their photographs for scientific purposes.

Study protocol

This study was a randomised split-body controlled study on body hair removal comparing the standard SP emission with the Moveo 755 alexandrite laser. The study aimed to directly compare these two systems by treating one side of the body using the standard SP alexandrite laser and the other side with Moveo. The treated body area included the face, arms, legs, trunk, axillae and groins. Parameters were chosen based on skin type, hair color, and thickness as well as anatomic location. Concerning SP emission, parameters included a 10-14 mm spot size, fluences of 11 to 19 J/cm^2, external skin cooling coupled with the handpiece (Zimmer Cryo 6) and frequency ranging from 1 to 1.5 Hz. Concerning Moveo, parameters included: fluences ranging from 3 to 7 J/cm^2, dose ranging from 1.5 to 3.0 KJ and frequency ranging from 3 to 5 Hz, according to the end-point which was considered as perifollicular erythema (Hruza, 2017).

Hair was shaved 48 hours prior to each treatment by the patient. Participants underwent a minimum of three to a maximum of eight sessions of treatment, each after 6 weeks. Before starting the treatment and at each session, the same physician evaluated all patients. PFC was scored from 0 to 3 points (0, none; 1, mild; 2, moderate; and 3, severe). Hair reduction rate (R%) was quantified utilizing the following formula: [(the hair quantity before the first laser treatment – the hair quantity after the current laser treatment)/the hair quantity before the first laser treatment]*100.

Response to treatment (e.g. R% and PFC score) on the two sides of the treated area was assessed at 6 months after treatment cessation.

Immediately after each laser treatment, subjects were also evaluated for immediate side effects. Erythema was classified according to an erythema scale from 0 (no erythema) to 5 (severe erythema). Burns were classified as first-, second-, third-degree and numbers of burns were recorded by the same physician. The amount of pain evoked by the laser was expressed by the participant and recorded on a numeric pain rating scale with a range from 0 (no pain) to 5 (unbearable pain).

Subjects were also evaluated for long-term complications and completed questionnaires assessing laser tolerability and satisfaction of hair reduction in each treatment area, based on a 5-point scale ranging from 0 to 4 (0, worse; 1, little satisfaction or not satisfied; 2, fairly satisfied; 3, satisfied; and 4, very satisfied).

Statistical analysis

A paired Student's t-test was used to compare the two laser treatments. Wilcoxon signed-rank tests of the paired differences were also performed for confirmation. Statistical significance was considered to be $p < 0.05$. Data are represented as means ± standard deviation (SD).

RESULTS

Study population

Subjects characteristics were summarized in Table 1-2.

A total of 108 patients were enrolled, of which 96 (88.8%) were female. Mean age (± SD) at baseline was 32 ± 9.4 years (range, 18-51 years).

The most common Fitzpatrick's skin type was found to be type III (n=41, 38%) followed by type IV (n=31, 29%), type II (n=18, 17%) and type V (n=12, 11%). Only three patients were skin type I (3%) and three subjects were skin type VI (3%).

The most common treated areas were legs (n=28, 26%), followed by groins (n=27, 25%), face (n=19, 17.5%), trunk (n=12, 11.1%), arms (n=11, 10.2%) and axillae (n=11, 10.2%).

Recalcitrant PFC was found in 38.8% of patients (n=42), of whom 66.7% (n=28) had a mild form and 33.3% (n=14) had a moderate-severe form.

Totally, 34.3% (n=37) of patients underwent four sessions of treatment, followed by 28.7% (n=31) of patients which underwent three treatments; 19.4% (n=21) participants performed seven sessions of treatment while 17.6% (n=19) subjects underwent eight treatments.

Hair reduction rate

The overall hair reduction rate (R% ± SD) for all patients, independent of skin type, was estimated as 87 ± 5.5 for SP Motus AX and 78.5 ±7.6 for Moveo (Table 3). No significant statistically difference was found between the two groups (Figure 1).

According to skin type, when SP emission was used, a mean hair reduction of 85.3 ± 6.1 was achieved for type I; 86.8 ± 5.9 for type II; 86.3 ± 5.1 for type III; 87.8 ± 5.1 for type IV; 86.7 ± 7.3 for type IV and 90.7 ± 5.0 for type VI. When Moveo was applied, skin type I patients achieved a mean hair reduction of 79.7 ± 3.7, followed by 76.8 ± 7.5 for type II, 78.6 ± 7.8 for type III, 79.5 ± 6.8 for type

IV, 78.0 ± 10.3 for type V and 77.3 ± 7.8 for typue VI. No significant statistically differences were found between the two groups.

According to anatomic sites, the response rate after SP Motus AX treatment was 84.2 ± 6.3 for legs, 88.5 ± 4.8 for groins, 87.1 ± 4.4 for face, 86.0 ± 4.8 for trunk, 91.1 ± 4.6 for arms, and 87.5 ± 5.3 for axillae. After Moveo treatment, a mean hair reduction of 75.6 ± 9.8 was found on the legs, 80.5 ± 6.8 on the groins, 78.3 ± 6.7 on the face, 78.7 ± 4.6 on the trunk, 80.5 ± 7.5 on the arms and 79.3 ± 6.0 on the axillae. No significant statistically differences were found between the two groups.

PFC severity score

An overall reduction of PFC was found in all the patients after both SP Motus AX and Moveo treatment (Table 4) (Figure 2). Particularly, 19% (n=8) of the patients presented a mild PFC and 11.9% (n=5) patients reported a moderate PFC after SP Motus AX treatment. When Moveo was used, 16.7% (n=7) of the patients reported a mild PFC and 9.5% (n=4) patients reported a moderate PFC. None of the subjects presented severe PFC.

Side effects

Results were reported in Table 5.

Transient perifollicular erythema and mild perifollicular edema appeared in all the patients immediately after both the procedures, with resolution in a few hours. On a scale of 0 to 5, erythema was found to be 1.8 ± 0.8 after SP Motux AX and 1.4 ± 0.5 after Moveo treatment. No statistically significant difference was shown between the two laser treatments. No persistent erythema was demonstrated in any patient.

Pain was reported in almost all the patients after both the treatments. On a scale of 0 to 5, pain was found to be 4.2 ± 0.8 after SP emission and 1.5 ± 0.5 after Moveo treatment. A statistical significant difference between the two devices was found (p=0.0002).

In a few cases, first degree burns were reported. Particularly, ten patients (9.2%) developed a first-degree burn after SP treatment (type III, n=4; type V, n=3; type VI, n=2; type IV, n=1) whereas only two patients (1.8%) reported a first-degree burn after Moveo treatment (type V, n=1; type VI, n=1). None of the patients reporter second- or third-degree burns.

No instances of hypo/hyperpigmentation, blistering, crusting, scarring, ecchymosis, purpura, folliculitis or other skin infections were noted. Other side effects such as dry skin, allergic/chemical skin reaction, paradoxical hypertrichosis, accelerated skin aging, tissue injury and bleeding were not shown. No patient reported clinical or dermoscopic changes in nevi nor melanoma.

Subject Satisfaction

Six months after the last treatment session, almost all the patients declared to be satisfied with both the treatments, with a median satisfaction index of 3.3 (range 0-4).

Our subjects were more satisfied with Moveo; in comparison with SP emission, the difference was statistically significant (p=0.01): 84% of the patients reported a preference for Moveo, whereas only 16% preferred the standard SP treatment. Moveo was declared to be more comfortable with lower side effects.

DISCUSSION

The effectiveness of hair removal with the long-pulsed 755 nm alexandrite laser was first described by Finkel et al. (1997). Since then, many studies have confirmed the efficacy and safety profile of this device (Ayatollahi, 2020; Grunewald S, 2014; Lee, 2018; Davoudi, 2008), with a median hair reduction rate of 70-96% (Nisticò, 2018; Moon 2012). According to literature data, our patients showed an average hair reduction of 87% after SP Motus AX treatment and 78.5% after Moveo. No statistically significant difference between SP and Moveo treatment was found; both the treatments obtained satisfactory results.

Recently, Nisticò et al. (2018) evaluated the safety and efficacy of the long-pulsed 755-nm alexandrite laser equipped with Moveo handpiece on 49 patients, skin types II-IV. Treated areas included face, limbs, groins, and axillae. All the patients completed four treatments at 4- 6 weeks interval. A marked reduction in hair regrowth was noted 3 months after the final treatment in all body locations, similar to our study. On a scale of 0 (<25%) to 4 (> 90%) authors found an averaged 3.9 hair reduction score on the face and groins. Hair on the legs was slightly more responsive with clinical hair reduction scores of 4.1 while axillary hair demonstrated the most impressive hair reduction scores, averaging

4.3. In our study, no statistically significant differences were found according to anatomic sites. All the body treated areas achieved similar hair reduction with both SP Motus AX and Moveo treatments. Our study also demonstrated excellent results in all Fitzpatrick skin type, even in the darker phototypes. There are concerns regarding the tolerability and efficacy of lasers for removal of unwanted hair in darker skin (phototypes III-VI). It has been shown that subjects with pigmented skin are more prone to laser-related adverse events such as pain, blistering, crusting, burns and dyspigmentation (Dorghman, 2019). Indeed, hair removal lasers, including alexandrite, target the eumelanin which is concentrated in the stem and hair follicle at the level of the dermal papilla and buldge. Through a process called selective photothermolysis, there is a thermal destruction of the targeted hair follicles with minimal damage to the surrounding tissues (Haedersdal M, 2011; Patil, 2008). Epidermal melanin competes for photon absorption, thus, dark skin types are more likely to experience complications (Thomas, 2019).

In a prospective study by Garcia et al. (2000) on 150 patients, skin types IV-VI, long-pulsed alexandrite was found to be safe. Complications occurred in only 2% of cases, including blistering, folliculitis, transient hypo/hyperpigmentation and excoriations. Similarly, in a retrospective study on 2359 Turkish patients (Kutlubay, 2009), skin type II-V, complications occurred in only 2.2% of cases, represented by transient hyperpigmentation, folliculitis, transient hypopigmentation, and blistering.

Another study on 31 patients with skin types IV to VI showed that alexandrite laser was a safe and effective treatment achieving long-term reduction of unwanted hair in skin types IV and V, but was less safe in skin type VI. Hyper and hypo-pigmentation were the main side effects. Reducing spot size (from 18-mm to 15-mm) resulted in decreased side effects (Goldman MP 2014). Moreover, using topical corticosteroids after treatment reduced the erythema and crusting (Aldraibi M, 2007).

Recently, Dorgham et al. (2019) published a meta-analysis aimed at evaluating the effectiveness and tolerability of different types of lasers, including alexandrite, and intense pulsed light (IPL) for hair removal in skin types III-VI. Authors demonstrated that lasers and IPL are both safe and effective for unwanted hair removal in subjects with skin type III-VI, with no significant differences in efficacy between them. Their study showed that both the devices had comparable rates of hair reduction and incidence of adverse events, except for immediate pain after the procedure, which was higher with lasers.

In our study, pain was the main side effect, reported by all the participants. Pain score was statistically lower after Moveo treatment in comparison with SP Motus AX. Indeed, on a scale of 0 to 5, pain was found to be 4.2 ± 0.8 after SP emission and 1.5 ± 0.5 after Moveo treatment. Moreover, even if rare, burns were reported, with highest incidence in the SP treatment group in comparison with Moveo (9.2% vs 1.8%). All burns were found in patients with Fitzpatrick's type III-VI.

An adverse reaction reported by all our patients was transient perifollicular erythema. This effect is regarded as a sign of effective therapy, more than a real side effect. It is a necessary part of laser photothermolysis and it is expected as an endpoint for laser hair removal (Lim, 2006).

In the literature, many uncommon alexandrite side effects have been reported, including purpura (Al-Hargan, 2018), paradoxical hypertrichosis, dry skin, allergic/chemical skin reaction, accelerated skin aging, induction or aggravation of acne, rosacea-like rash and pigmentary changes of pre-existing nevi (Rasheed, 2009). None of them was found in our patients.

The containment of the side effects and the pain can be explained through the particular emission mode of the Moveo handpiece. The Motion technique with the cooled handpiece, indeed, uses a minimal energy emission to reduce the pain sensation. User must continuously move the handpiece in a slow linear/circular motion, inside an area of 10 x 10 cm and executing multi back-and-forth passes up to a defined accumulated energy. This method allows to induce a progressive increase of the target temperature, monitoring the cutaneous reactions and being able to interrupt or modify the treatment at any time, thus minimizing the side effects typical of the traditional method (Nisticò, 2018).

Interestingly, our study showed a significant improvement of PFC in all our patients. PFC is a chronic inflammatory condition that is triggered by aberrant hair growth in regions that are subject to traumatic hair removal. It most commonly occurs in individuals with thick, tightly curled hair (Jasterzbski, 2015). Because of the chronicity of the condition, long-term treatment should be aimed at avoiding continuous follicular reentry into the perifollicular epidermis (Nussbaum, 2019). Literature data confirmed the efficacy of lasers (Bridgeman-Shah, 2004), including alexandrite (Leheta, 2009), which can represent an alternative long-lasting treatment for PFC.

In a recent survey on long-term efficacy of 755 nm alexandrite, authors followed 948 patients, skin types I–IV, for about 12 years (Russe, 2020). Long- term adverse events were minimal: 0.3% participants experienced scars while 1.2% subjects had a reactivation of herpes infection, all located

on the face. Patients were satisfied by the treatments; in a scale from 1 (best) to 5 (worst), a median index of 2.24 was reported 3.9 (±1.5) years after their final laser treatment. Patient satisfaction was highest in axilla (1.90) and bikini area (1.89).

In our study, on a scale of 0 (worse) to 5 (very satisfied), a median satisfaction index of 3.3 was declared 6 months after the last laser sessions. No statistically significant differences were found according to anatomic sites.

Conclusion

Both standard SP and Moveo emission with 755 alexandrite (Motus AX) laser are effective and safe technologies that are able to produce lasting results in body hair removal in all Fitzpatrick's skin type. Moreover, both standard SP and Moveo has been effective in the treatment of PFC.

In our study, the Moveo technology has shown to be safer, showing less side effects.

REFERENCES

Aldraibi, M.S., Touma, D.J., Khachemoune, A. (2007). Hair removal with the 3-msec alexandrite laser in patients with skin types IV-VI: efficacy, safety, and the role of topical corticosteroids in preventing side effects. *J Drugs Dermatol*, 6, 60-6.

Ayatollahi. A., Samadi, A., Rajabi-Estarabadi, A., Yadangi, S., Nouri, K., Firooz, A. (2020). Comparison of efficacy and safety of a novel 755-nm diode laser with conventional 755-nm alexandrite laser in reduction of axillary hairs. *Lasers Med* Sci, 35, 373-378.

Bridgeman-Shah, S. (2004). The medical and surgical therapy of pseudofolliculitis barbae. *Dermatologic Therapy*, 17, 158–163.

Davoudi Masoud, S., Behnia, F., Gorouhi, F., Keshavarz, S., Kashani, M.N., Firoozabadi, M.R., Firooz, A. (2008). Comparison of long-pulsed alexandrite and Nd: YAG lasers, individually and in combination, for leg hair reduction: An assessor-blinded, randomized trial with 18 months of follow-up. *Archives of dermatology*, 144, 1323–27.

Dorgham, N.A., Dorgham, D.A. (2019). Lasers for reduction of unwanted hair in skin of colour: a systematic review and meta-analysis. *J Eur Acad Dermatol Venereol*.

Fayne, R.A., Perper, M., Eber, A.E., Aldahan, A.S., Nouri, K. (2018). Laser and Light Treatments for Hair Reduction in Fitzpatrick Skin Types IV-VI: A Comprehensive Review of the Literature. *Am J Clin Dermatol*, 19, 237-252.

Finkel, B., Eliezri, Y.D., Waldman, A. & Slatkine, M. (1997). Pulsed alexandrite laser technology for noninvasive hair removal. *J Clin Laser Med Surg*, 15, 225–229.

Freedman, B.M., Earley, R.V. (2000). A structured treatment protocol improves results with laser hair removal. *J Cutan Laser Ther*, 2, 131–135.

Gan, S.D., Graber E.M. (2013). Laser hair removal: a review. *Dermatol Surg*, 39, 823-38.

Garcia, C., Alamoudi, H., Nakib, M., Zimmo, S. (2000). Alexandrite laser hair removal is safe for Fitzpatrick skin types IV-VI. *Dermatol Surg*, 26, 130-4.

Goldman MP, Fitzpatrick RF, Ross EV et al. (2014) *Laser e Sorgenti di Luce: Applicazioni in Dermatologia e Medicina Estetica* (2nd ed.). Emsi ed."

Grunewald, S., Bodendorf, M.O., Zygouris, A., Simon, J.C., Paasch, U. (2014). Long-term efficacy of linear-scanning 808 nm diode laser for hair removal compared to a scanned alexandrite laser. *Lasers Surg Med*. 2014, 46, 13-9.

Haedersdal, M., Haak, C.S. (2011). Hair removal. *Curr Probl Dermatol*, 42, 111-121

Hruza, G.J., Avram, M. (2017). *Lasers and Lights E-Book: Procedures in Cosmetic Dermatology Series* (4th ed.). Kindle Edition, p.48.

Jasterzbski, T.J., Schwartz, R.A. (2015). Pseudofolliculitis cutis: a vexing disorder of hair growth. *Br J Dermatol*, 172, 878-84.

Kutlubay, Z. (2009). Alexandrite Laser Hair Removal Results in 2359 Patients: A Turkish Experience. *J Cosmet Laser Ther*, 11, 85-93.

Lee, C.M. (2018). Laser-assisted hair removal for facial hirsutism in women: A review of evidence. *J Cosmet Laser Ther*, 20, 140-144.

Leheta, T.M. (2009). Comparative evaluation of long pulse Alexandrite laser and intense pulsed light systems for pseudofolliculitis barbae treatment with one year of follow up. *Indian J Dermatol*, 54, 364-8.

Lim, S.P., Lanigan, S.W. (2006). A review of the adverse effects of laser hair removal. *Lasers Med Sci*, 21, 121-5.

Moon, H.R., Lee, J.H., Lee, G., Rhee, D.Y., Park, G., Won, C.H., Chang, S.E., Lee, M.W., Choi, J.H., Moon, K.C., Goo, B., An, J.S. (2012). Long-pulsed Alexandrite Laser vs. Intense pulsed light for axillary hair removal in Korean women. *Med Laser*, 1, 11–15.

Nisticò, S.P., Del Duca, E., Farnetani, F., Guida, S., Pellacani, G., Rajabi-Estarabadi, A., Nouri, K. (2018). Removal of unwanted hair: efficacy, tolerability, and safety of long-pulsed 755-nm alexandrite laser equipped with a sapphire handpiece. *Lasers Med Sci*, 33, 1479-1483

Nussbaum D, Friedman A. (2019). Pseudofolliculitis Barbae: A Review of Current Treatment Options. *J Drugs Dermatol*, 18, 246-250.

Patil, U.A., Dhami, L.D. (2008). Overview of lasers. Indian J Plast Surg, 41, S101-13.

Rasheed, A.I. (2009). Uncommonly reported side effects of hair removal by long pulsed-alexandrite laser. J Cosmet Dermatol, 8, 267-74.

Russe, E., Purschke, M., Herold, M., Sakamoto, F.H., Wechselberger, G., Russe-Wilflingseder, K. (2020). Evaluation of Safety and Efficacy of Laser Hair Removal With the Long-Pulsed 755 nm Wavelength Laser: A Two-Center Study With 948 Patients. *Lasers Surg Med*, 52, 77-83.

Tatlidede, S., Egemen, O., Saltat, A., Turgut, G., Karasoy, A., Kuran, I. (2005). Hair removal with the long-pulse alexandrite laser. *Aesthet Surg J*, 25, 138-43.

Thomas, M.M., Houreld N.N. (2019). The "in's and outs" of laser hair removal: a mini review. *J Cosmet Laser Ther*, 21, 316-322.

Toosi, P., Sadighha, A., Sharifian, A., Razavi, G.M. (2006). A comparison study of the efficacy and side effects of different light sources in hair removal. *Lasers Med Sci*, 21, 1–4.

FIGURE LEGEND

Figure 1 A 35-year-old female patient, phototype V, with facial hairs (a-c). Hair reduction after standard SP Motus AX (b) and after Moveo 755 alexandrite (d) treatment.

Figure 2 Pseudofolliculitis cutis severity score (0-3) at baseline and 6 months after the last session of treatment with both SP Motus AX and Moveo 755 alexandrite.

Figure 1. A 35-year-old female patient, phototype V, with facial hairs (a-c). Hair reduction after standard SP Motus AX (b) and after Moveo 755 alexandrite (d) treatment.

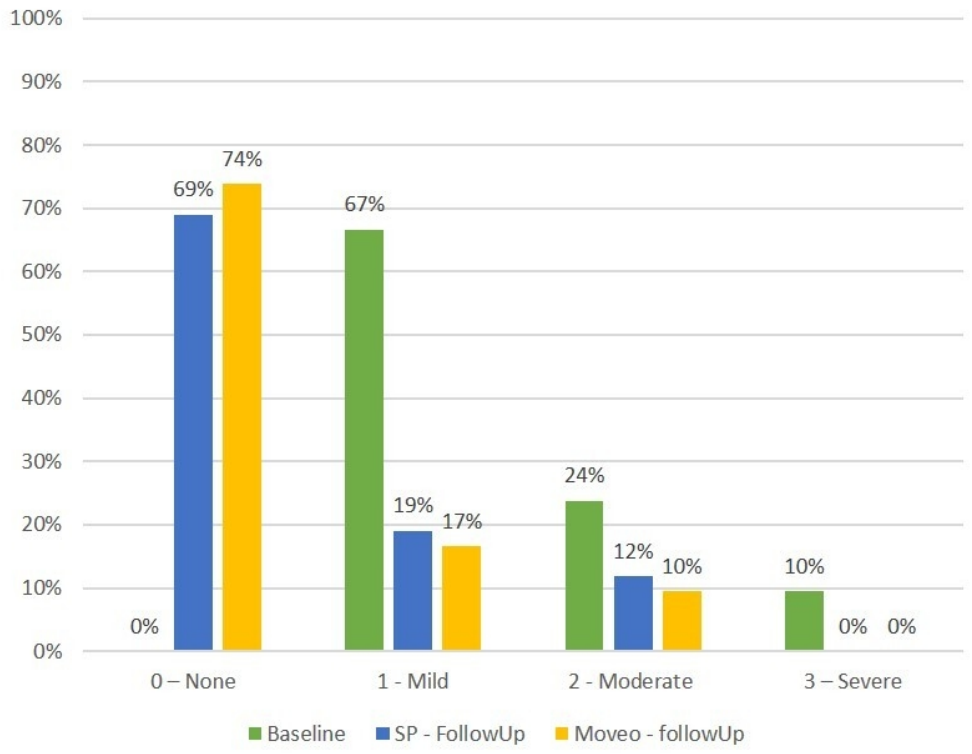

Figure 2. Pseudofolliculitis cutis severity score (0-3) at baseline and 6 months after the last session of treatment with both SP Motus AX and Moveo 755 alexandrite.