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CASE REPORT

CO_2 laser desiccation of urethral hair post-penoscrotal hypospadias repair

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Abstract
Background: Proximal urethral defects account for approximately 20% of hypospadiac urethras. Previous surgical interventions involved hair-bearing genital skin which consequently resulted in a hairy urethra, which is seen mainly in older patients. *Objective*: To evaluate the safety and effectiveness of the CO_2 laser for urethra hair elimination. *Methods*: Four men aged 18–20 years with hairy urethras, who failed electrolysis treatment, were treated with CO_2 laser desiccation at low fluences (2–5 watts). The treatments were performed at 1-month intervals. Treatment was continued until no hair was seen. Visual assessment of the hair reduction was recorded. *Results*: Patients received two to four treatment sessions (average 3.2). On clinical assessment 3 months after the last treatment, outcome was rated excellent (no hair) in all patients. *Conclusions*: CO_2 laser desiccation should be considered as a therapeutic modality for a hairy urethra, especially after the failure of electrolysis.

Key words: *Laser, Urethra, hair, peno-scrotal repair*

Introduction

Proximal urethral defects, which account for approximately 20% of hypospadiac urethras (1), are one of the most challenging surgical procedures facing the hypospadiologist. Construction of the neourethra is performed using a flap of penile skin or a buccal mucosa graft.

Previous surgical interventions involved hair-bearing genital skin which consequently resulted in a hairy urethra (seen mainly in older patients with multiple-staged procedures) (2). Other side effects included infection, encrustation and stone formation.

Local measures have been described that include the removal of hair and calculi, and cystoscopic fulguration of the follicles (2). In most instances, however, the hair-bearing portion is replaced with a graft of distal penile skin (if available) or buccal mucosa.

We introduce our clinical results with CO_2 laser treatment for the hairy urethra.

Patients and methods

Four patients, aged 18–20 years, presented at our laser unit with hairy urethras. Previous operative interventions due to penoscrotal hypospadias included Horton-Devine repair (skin graft taken from the left thigh) in the first patient, and bilateral orchiopexy and chordee repair as a first stage, followed by Dennis Brown repair in the second patient. The third patient had received multiple surgical procedures, including a skin graft from the inguinal region, performed at another institute. No further information regarding this procedure was recalled. All four patients had undergone conventional electrolysis treatments with only partial success.

Urethroscopy demonstrated the presence of multiple hair follicles along the penile urethra (urethral plate). Treatment with depilation under general anesthesia after opening the distal urethra was unsuccessful.

At this stage, CW CO_2 laser desiccation was initiated, at low fluences (2–5 watts), under intradermal anesthetic (lidocaine 1%). The patients applied topical antibiotic (mupirocin) twice a day for a week after each session. Treatments were continued until a complete hair reduction was achieved. Photographic documentation was performed and visual assessment of improvement was recorded.

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Results

The average number of treatment sessions needed to achieve complete hair reduction was three (range two to four; Figures 1–5). The time interval between the treatment sessions was 1 month and the follow-up period was 3 months. Minimal scarring without any functional significance was observed in a few treatment areas. No other side effects were recorded.

Discussion

Although, in the last few years, laser hair removal has emerged as a viable modality (3), when the hairs are fine and scattered, the results of the long-pulsed laser dedicated to hair removal are disappointing (personal experience). Since electrolysis treatment had already been failed in these patients, we decided to perform a CO_2 laser desiccation. In contrary to specific laser hair removal, which is based on the principle of selective photothermolysis, in which energy is absorbed in a target chromophore (the melanin in the hair shaft), to be delivered to the hair follicle bulb while sparing the skin and the surrounding tissue, continuous wave CO_2 laser dissection is a non-specific hair removal and destroys the hair

Figure 1. Patient 1: before treatment.

Figure 2. Patient 1: during treatment.

Figure 3. Patient 1: 1 month after the first treatment.

Figure 4. Patient 2: before treatment.

Figure 5. Patient 2: 2 months after three treatments.

follicle and the surrounding dermis, creating micro-scarring.

This modality was relatively simple and without a significant morbidity following the recovery period. On the basis of our clinical experience, CO_2 laser desiccation should be considered as a therapeutic modality for a hairy urethra, especially following the failure of electrolysis.

References

1. Cilento BG Jr, Atala A. Proximal hypospadias. Urol Clin North Am. 2002;28:311–28.
2. Retik AB, Atala A. Complication of hypospadias repair. Urol Clin North Am. 2002;29:329–39.
3. Haedersdal M, Gotzsche PC. Laser and photoepilation for unwanted hair growth. Cochrane Database Syst Rev. 2006 Oct 18;(4):CD004684.