Lymphangioma Circumscriptum of the Glans Penis Treated with Advanced Fluorescence Technology Pulsed Light Therapy: Case Report

Advanced Fluorescence Technology Pulsed Light ile Tedavi Edilen Glans Penis Lenfanjioma Sirkumskriptumu

Ektan DEMİR, MD,[a]
Kenan İSEN, MD,[b]
Hüseyin BÜYÜKBAYRAM, MD[c]

[a]Clinic of Dermatology, Sultan Hospital,
[b]Clinic of Urology,
Diyarbakır Education and Research Hospital, Ministry of Health,
[c]Department of Pathology,
Dicle University, Faculty of Medicine,
Diyarbakır,
TÜRKİYE/TURKEY

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Yazışma Adresi/*Correspondence:*
Kenan İSEN, MD
Diyarbakır Education and Research Hospital, Ministry of Health,
Clinic of Urology, Diyarbakır,
TÜRKİYE/TURKEY
kenanisen@hotmail.com

ABSTRACT Lymphangioma circumscriptum (LC) of the glans penis is an extremely rare situation. A 34-year-old man was referred to us with multiple lesions on the glans penis. On examinaton, multiple, dark red-colored papular lesions were seen on the glans penis. Punch biopsy was obtained, and the diagnosis was made with histopathological examination. Patient was treated with advanced fluorescence technology pulsed light (AFPL) (Harmony 540 nm, msq co. Alma) therapy. Although complete improvement was achieved after three sessions of AFPL therapy, recurrence was observed after nine months. No complications was observed during the procedures. We suggest that AFPL therapy might be considered as an alternative treatment option for LC of the glans penis, however, patients should be informed about the possibility recurrence.

Key Words: Lymphangioma; penis; laser therapy

ÖZET Glans penisin lenfanjioma sirkumskriptumu (LC) oldukça nadir görülen bir durumdur. Otuz dört yaşındaki erkek hasta glans peniste çok sayıda kızarıklık şikayeti nedeniyle başvurdu. Hastanın fizik muayenesinde, glans peniste çok sayıda koyu-kırmızı papül saptandı. Hastadan punch biopsi alındı ve tanı histopatolojik değerlendirme ile kondu. Hastaya advanced fluorescence technology pulsed light (AFPL) (Harmony 540 nm, msq co. Alma) tedavisi uygulandı. İşlemler sırasında herhangi bir komplikasyon görülmedi. Üç seans AFPL tedavisi sonrası tam iyileşme olmasına rağmen dokuz ay sonra nüks görüldü. AFPL tedavisi glans penisin lenfanjioma sirkumskriptumu için alternatif bir tedavi olarak düşünülebilir, bununla birlikte, hastalar nüks gelişmesi olasılığı açısından bilgilendirilmelidir.

Anahtar Kelimeler: Lenfanjioma; penis; laser tedavisi

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The traditional treatment of lymphangioma circumscriptum (LC) is surgical removal.[1] However, laser or hypertonic saline sclerotherapy are recommended as alternative procedures.[2-4] Recently, pulsed light (PL) therapy is used more frequently for the treatment of vascular lesions due to its noninvasiveness, ease of use, and short recovery time.[5,6] Advanced fluorescence technology (AFPL) is a novel pulsed light technology, and it can be used for photodamaged of pigmented or vascular lesions of the skin.[7,8] Herein, we report a case who presented with LC in an unusual area, the glans penis, and the management with AFPL.

CASE REPORT

A 34-year-old man was referred to us with multiple lesions on the glans penis which had developed gradually over the previous six months. On examinaton, multiple, distributed uniformly dark red-colored lesions were seen on the glans penis (Figure 1). He described aqueous fluid leaking from the lesions after sexual intercourse. There was no history or signs of inflammatory disease, surgery, or radiotherapy before the appearence of the condition. The lesions appeared spontaneously. A punch biopsy was taken. Histopathological examination showed dilated lymphatic vessels filled with proteinous material in the upper dermis, and partial acanthosis and hyperkeratosis of the overlying epidermis (Figure 2 A, B). Informed consent was obtained from the patient. The patient received three treatments; for each session 13 J/cm² (spot size: 6.4 cm) with 3 weeks intervals with the AFPL (Harmony 540 nm, msq co.Alma). Complete improvement without any complications was achieved with the AFPL therapy (Figure 3). However, recurrence was observed after the nine months.

FIGURE 1: Dark red-colored lesions on the glans penis.

DISCUSSION

LC is a vascular malformation of lymphatic vessels presenting with small clusters of vesicles measuring about 2-4 mm. These clear vesicles can vary from pink to red to black secondary to hemorrhage. LC are usually asymptomatic, but occasionally, patients may have spontaneous episodes of minor bleeding and copious drainage of clear fluid from ruptured vesicles. In adult patients, the lesions appear spontaneously.[9-11] Similarly, in this case, the lesions were typically dark red-colored with diameters between 2-4 mm and appeared spontaneously. The patient has aqueous fluid leaking from the lesions after sexual intercourse.

Diagnosis of LC is easy if the clinician is aware of the phenomenon. The vesicular lesions may be mistaken for herpes, milia or other vesicular dermatoses, but the long-term oosing after puncture is very characteristic and leads to the correct diagnosis which is supported by histological examination.[9] The lesions can have a warty appearance on their surface; as a result, these lesions are

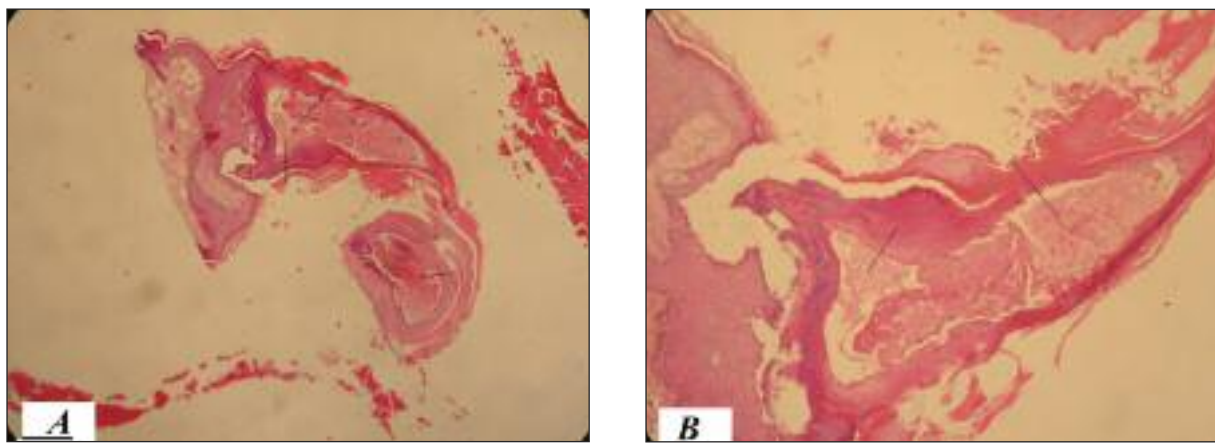

FIGURE 2: A: Dilated lymphatic vessels filled with proteinous material, in the upper dermis. **B:** Partial acanthosis and hyperkeratosis of the overlying epidermis.

FIGURE 3: Total disappearance of the lesions was achieved with AFPL therapy.

often confused with warts.[9,10] Histolopathologic features of lymphangioma circumscriptum include dilated lymph vessels in the upper dermis that may extend into the subcutis. There may be acanthosis and hyperkeratosis of the overlying epidermis.[11] The histological findings of this case were consistent with these features. However, deeper component of the LC was not seen on the histological examination. It seems that sufficient material may not be obtained with punch biopsy to determine deeeper component of LC of the glans penis.

Only a few cases of lymphangioma circumscriptum located at the glans penis have been described to date in the literature.[9,10,12] Treatment is indicated because the lesions may act as portals of entry for infection and cosmetic or psychosexuel reasons. The preferred treatment for LC is complete surgical excision. LC is commonly associated with a deeper component, and simple surgical excision of LC often results in further recurrence of vesicles. If the lesions are distributed uniformly over the penis, radical excision is often difficult and requires highly skilled soft tissue reconstruction.[1] Recently, vaporisation with carbon dioxide laser, 900-nm diode laser or hypertonic saline sclerotherapy for treatment of LC has been tried with good results.[2-4] PL therapy represents a novel mode of treatment of photodamaged skin. PL systems work on the same principles as lasers in that light energy is absorbed into particular target cells (melanin or hemoglobin) with colour in the skin. The light energy is converted to heat energy, which causes damage to the specific target area. PL systems are different from lasers in that they deliver many wavelengths in each pulse of light instead of just one wavelength. PL passes through the epidermis and penetrates into the dermis where blood vessels, pigment cells, and collagen are found. Thus, the severe redness and peeling associated with traditional laser skin resurfacing is avoided. Additionally, traditional PL light therapy devices are more reliable and less expensive to buy and maintain than comparable laser therapy systems.[7] It offers an easy and effective way of treating various types of vascular lesions with minimal side effects and yields high patient satisfaction.[5,6] With proper use, severe side effects are rare, including hypopigmentation, hyperpigmentation, blisters, crusts and atrophic scars in the treated area. These side effects are much more common with older, first generation flash-lamps which emit a higher proportion of infrared light. The main advantage of PL therapy is its minimal downtime, however, several treatments may be required to see the desired effect.[7] Advanced fluorescence technology is a new generation of multi-application pulsed light technology for photodamaged skin.[7,8] Recently, good results with minimal side effects have been reported for the treatment of pigmented lesions or inflammatory acne vulgaris.[8,13]

In the present case, complete surgical excision was not performed because sexuel function might be affected and a good cosmetic results might not be obtained with radical surgery of the glans penis. We preferred AFPL therapy since it were minimally invasive and papular lesions of the LC were dark red-colored secondary to bleeding. No complications was observed during the procedures. Complete improvement with good cosmetic results were obtained after the procedures, however recurrence was observed after nine months follow-up.

CONCLUSION

We suggest that AFPL therapy may be considered as an alternative treatment option for LC of the glans penis, however, patients should be informed about the recurrence risk of this disease.

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