

Intralesional 1470 nm Diode Laser for Hidradenitis Suppurativa: A Case Report

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Abstract

Hidradenitis suppurativa (HS) is a chronic, inflammatory skin disease characterized by nodules, abscesses, and sinus tracts in intertriginous areas. Laser- and light-based treatments are gaining popularity in HS treatment. Diode lasers act selectively in Hurley stage 1-2 patients, and intralesional laser applications are applied to various areas, such as vascular malformations and dermatological diseases. In this case report, we describe a male patient diagnosed with HS who was treated with 1470 nm intralesional diode laser.

Keywords: Hidradenitis suppurativa, laser, treatment

INTRODUCTION

Hidradenitis suppurativa (HS) is a chronic, inflammatory skin disease characterized by nodules, abscesses, and sinus tracts in the intertriginous areas that can significantly affect the patient's quality of life. Various therapeutic approaches are available to treat HS, including topical, systemic, and surgical.^{1,2} In addition to these treatments, laser- and light-based treatment options are gaining popularity. Laser and light-based therapies can be used either alone or in combination with other pharmacological and surgical approaches.^{3,4} There are data on intralesional laser application in dermatological diseases and vascular malformations, and intralesional application can provide energy to different depths of the skin.⁵⁻⁷

In this case report, we describe a male patient diagnosed with HS who was successfully treated using an intralesional 1470 nm diode laser.

CASE REPORT

A 64-year-old male patient presented to our clinic with painful lesions in his left axilla. He described painful, discharging lesions in the axilla that began two years ago and periodically returned. He also had lesions in the glutea. His medical history revealed hypertension and diabetes mellitus. Subcutaneous nodules, sinus tracts in the left axilla, and double comedones in the right axilla were observed on dermatologic examination (Figure 1). Ultrasonography of the axilla revealed anechoic fluid collections, pseudocysts, and fistula structures (Figure 1). Based on clinical and ultrasonographic findings, HS was diagnosed. The patient's Hurley stage was 2, International Hidradenitis Suppurativa Severity Score-4 score was 10, and Dermatology Life Quality Index was 10. After one month of treatment with oral doxycycline when regression of pain and discharge of the lesions was achieved. To reduce disease burden and achieve lesion regression, we applied laser (neoV1470-

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diode laser, wavelength 1470 nm, continuous energy of 10W) to the lesions. The procedure was performed under sterile conditions with local anesthesia (lidocaine 20 mg/mL + epinephrine 0.0125 mg/mL). First, external orifices of the lesions were widened, and the laser probe was placed in the nodular lesions and fistula tracts in the axilla, and the laser was applied to each lesion for five seconds. The patient was prescribed topical antibiotics after the procedure and did not require systemic antibiotics. Although the lesions healed in 3 weeks, no recurrence was observed in the six-month follow-up (Figure 2). The patient in this manuscript has given written informed consent to the publication of his case details.

DISCUSSION

The gold standard surgical procedure for HS is surgical excision, but this procedure has several limitations, including procedural complications, high cost, and problems with wound healing after surgery.¹ The laser operates in two distinct modes: ablative and selective. Intense pulsed light, neodymium-doped:yttrium aluminum garnet, and diode lasers act selectively, which reduces hair follicle, sebaceous gland, and bacterial load, and are effective treatment options in Hurley stage 1-2 patients; on the other hand, CO₂ lasers act in an ablative modality and appear to be more beneficial in Hurley stages 2-3.³⁻⁶

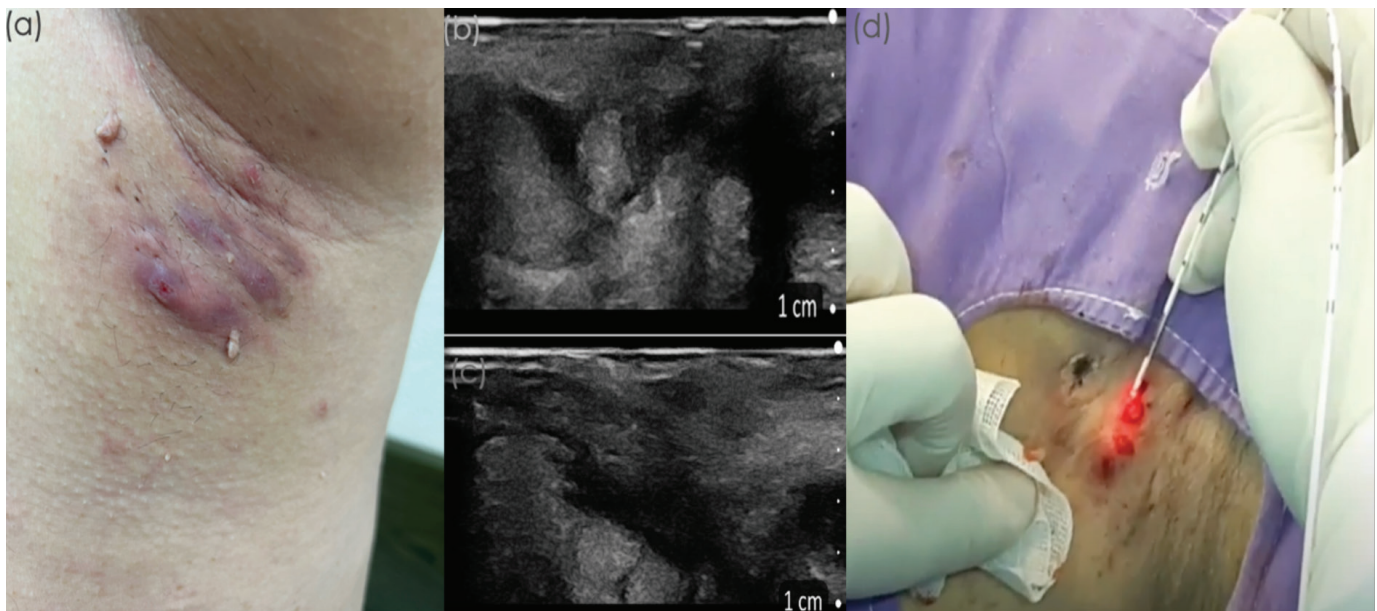


Figure 1. (a) Subcutaneous nodules, sinus tracts, and fistula openings in the left axilla; (b) Anechoic fluid collection in the ultrasonographic examination of the axilla; (c) Pseudocyst and fistula appearance; (d) Use of ablative laser during the procedure

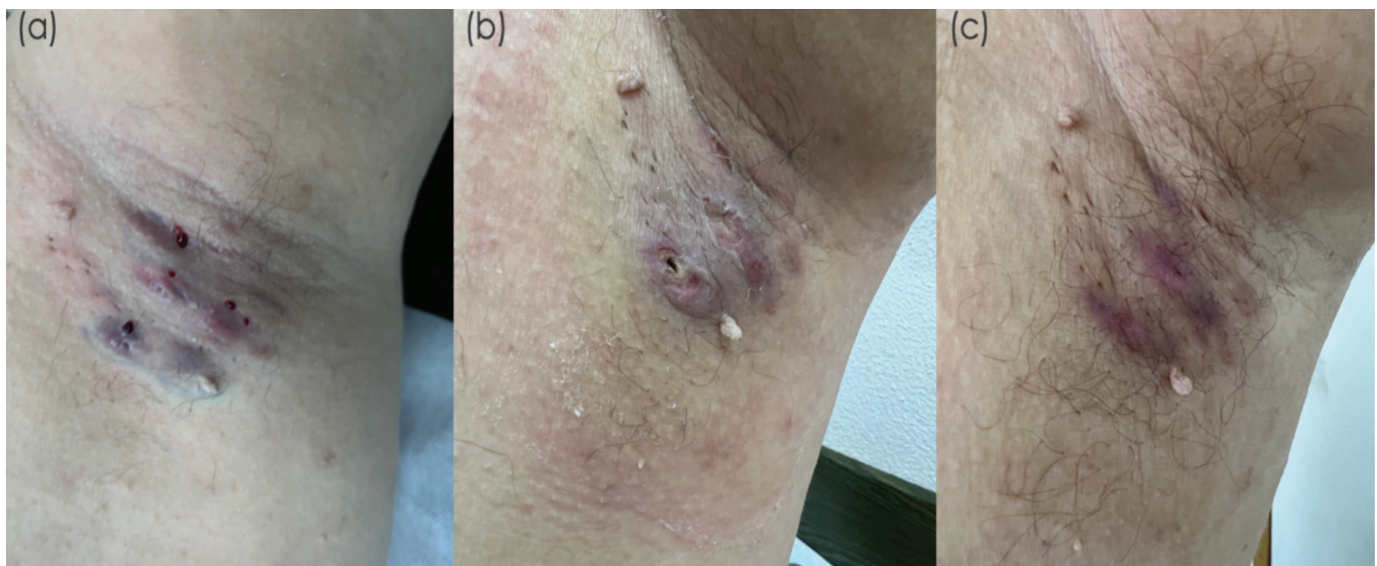


Figure 2. View of the lesions on the patient's left axilla after the procedure (a), 1 week (b), and 4 weeks (c) after the procedure

There are only a limited number of publications on the use of diode lasers in HS treatment. Fabbrocini et al.⁵ intralesionally applied a 1064 nm diode laser in 20 patients with HS and achieved good clinical responses, also emphasized the benefit of intralesional application, which allows the reach of the light to different depths of the skin. While they applied four intralesional laser sessions with a 1064 nm diode laser in their study, in our study, one session was intralesional with a 1470 nm diode laser, and it was sufficient to obtain an adequate clinical response. Additionally, Guillem et al.⁶ used intralesional 1470 nm diode laser to Hurley stage 2 HS patients and stated that this method could be an effective and easy treatment option for these patients. Intralesional photodynamic therapy applications with diode lasers also stand out as promising treatment options for HS.⁸

A 1470 nm diode laser can reduce bleeding and improve curative rates by absorbing water and hemoglobin at a wavelength of 1470 nm, which promotes good hemostasis and high tissue vaporization. In the literature, 1470 nm diode lasers have been used for hypertrophic scars and keloid management, endovenous laser ablation, and hemorrhoid and pilonidal sinus treatment.⁹⁻¹¹

In this case, we report a rare 1470 nm intralesional diode laser application for HS in the literature. In reporting our case, we want to highlight that as a minimally invasive procedure, 1470 nm diode lasers can be an effective treatment method for Hurley stage 1-2 HS treatment without significant complications, any restriction in the patient's life quality, and with beneficial post-treatment recovery.

Footnote

Informed Consent: The patient in this manuscript has given written informed consent to the publication of his case details.

Authorship Contributions

Surgical and Medical Practices: Y.C.E., Y.A., B.T., S.L., E.A., Concept: Y.C.E., Y.A., B.T., S.L., E.A., Design: Y.C.E., Y.A., B.T., S.L., E.A., Data Collection or Processing: Y.C.E., Y.A., B.T., S.L., E.A., Analysis or Interpretation: Y.C.E., Y.A., B.T., S.L., E.A., Literature Search: Y.C.E., Y.A., B.T., S.L., E.A., Writing: Y.C.E., Y.A., B.T., S.L., E.A.

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