Eradication of Angiolymphoid Hyperplasia With Eosinophilia by Copper Vapor Laser

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The Cutting Edge: Challenges in Medical and Surgical Therapeutics

REPORT OF CASES

CASE 1

A healthy 47-year-old white woman presented with 4 vascular-appearing plaques on the left upper part of the forehead (Figure 1A), which had been present for approximately 9 years. On physical examination, there was a 1.0 × 1.2-cm pink plaque with 3 similar-appearing papules above it measuring 0.4 to 0.8 cm. One lesion extended into the hairline. Two 3-mm punch biopsy specimens were obtained, which showed features of angiolymphoid hyperplasia with eosinophilia (ALHE) (Figure 2A). Of note, the patient experienced severe neuropathic symptoms of dysesthesia and hyperesthesia of the left frontoparietal part of the scalp 1 to 2 months after her biopsy, which gradually resolved during the ensuing 6 months.

CASE 2

A healthy 54-year-old white woman presented with a 19-year history of a purplish-red plaque located on the posterior part of the scalp and marked associated pruritus. A biopsy specimen obtained approximately 15 years previously was interpreted as showing acne keloidalis nuchae. Therapy had included intralesional and topical corticosteroids and systemic isotretinoin. The lesion had remained stable in size during the last 15 years, but pruritus had persisted. On physical examination, there was an 8.0 × 5.5-cm plaque composed of beefy red to purple nodules (Figure 3A). Histopathologic examination showed features of ALHE.

THERAPEUTIC CHALLENGE

The challenge was the treatment of ALHE. Various modalities have been used to treat ALHE in the past, but as yet there is no standard of care. Furthermore, none of the therapeutic options has provided consistent results.

SOLUTION

CASE 1

Treatment with the copper vapor laser (CVL) was initiated and continued nearly monthly for a total of 7 sessions. Each lesion received 5 treatments during this period. Laser variables were 578 nm, dwell time of 100 milliseconds on and 100 milliseconds off, spot size of 267 µm, and 660 mW. An immediate light gray blanching of the lesion occurred. The power was then gradually increased with each treatment, with a final treatment power of 1.005 W. Each treatment end point was a light gray blanching of the lesions. With clinical resolution evident.

Figure 1. A, Upper part of the forehead demonstrating indurated vascular-appearing plaques. B, Clinical resolution of lesions after 5 copper vapor laser treatments to each lesion.
(Figure 1B), a follow-up incisional biopsy was performed in the area of the original largest lesion. Histopathologic examination demonstrated mild fibrosis with no evidence of ALHE (Figure 2B). A follow-up examination 6 years after therapy showed no recurrence of disease.

**CASE 2**

Initially, the most symptomatic portion of this plaque was excised without noted recurrence. Two weeks later, 3 nodules were randomly chosen for treatment with the CVL. Laser variables were 578 nm and dwell time of 75 milliseconds on and 100 milliseconds off. The lesions were treated with either a 150-µm or 267-µm spot size and an average power of 750 mW. Each site developed slight graying with treatment. One month later, the 3 lesions were treated with a spot size of 267 µm and 960 mW of power. A third treatment was performed 1 month later, with a dwell time of 100 milliseconds on and 100 milliseconds off, a 267-µm spot size, and a power of 900 mW. The lesions significantly decreased in size and the pruritus was moderately relieved (Figure 3B). Because visits required several hours of travel time, the patient requested excision of the remaining non–laser-treated lesions 2 months later. Specimens were also obtained from the treated areas for histologic examination. Histopathologic study of the laser-treated area showed fibrosis without evidence of residual ALHE. The patient was found to be clinically free of ALHE 6 years after treatment.

**COMMENT**

Angiolymphoid hyperplasia with eosinophilia is a rare benign proliferation of hyperplastic vessels lined by plump endothelial cells in conjunction with a dense inflammatory infiltrate composed of lymphocytes and characteristic eosinophils. The vascular component is predominantly capillaries, but in some cases small arteries and venules are found. At times, a peripheral eosinophilia is present, and some have designated this entity Kimura disease. This latter condition was first reported in Asia but is also seen in the Western world. The terms Kimura disease and ALHE have been used interchangeably by some, while other authors contend that these are distinct entities. Although regional lymphadenopathy has been reported in approximately 15% of cases, no reports of metastasis are known.

Treatment of ALHE has been difficult, and several modalities have been reported. The lesions can be quite large and extensive, especially when involving the scalp. Surgical excision has been reported to be successful in some cases, but recurrences may occur. Complete removal of the involved tissue or its destruction is therefore the goal of treatment. The ALHE may extend quite deep within the skin...
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and involve the subcutis. Because of this deep involvement, other treatment modalities have not been as successful. These include cryosurgery,1 intraloskeletal and systemic corticosteroids,8 curettage and electrodesication,9 radiation therapy,10 pentoxifylline,11 and chemotherapy.12,13 Lasers used in the treatment of ALHE include the carbon dioxide,14,15 argon,16,17 and pulsed dye lasers.18,19 Recurrence after treatment is not uncommon and systemic corticosteroids,8 curettage and electrodesic- tion, compared with the more exophytic and thicker les-

tions in the second patient, as well as the difference in thickness of the lesion of ALHE plays a role in the treat-

ment modality with minimal morbidity for ALHE with-

out recurrence several years after treatment. It appears that the thickness of the lesion of ALHE plays a role in the treat-

ment response and overall effectiveness of treatment with the CVL. It stands to reason that other vascular lasers could also be effective in this disease, but recurrences are likely. The superiority of one laser over another will need to be tested to establish a definitive therapy.

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REFERENCES

4. Kung JTM, Gibson JB, Bannatyne PM. Kimura’s disease: a clinicopathologic study of 21 cases and its distinction from angiolymphoid hyperplasia with eosino-

5. Urabe A, Tsuneyoshi M, Enjoji M. Epithelioid hemangioma versus Kimura’s dis-


766.
6. Ruckenstein MJ, Birt BD, Grus JS. Angiolymphoid hyperplasia with eosino-

8. Calhoun KH, Newton RC, Sanchez RL. Angiolymphoid hyperplasia with eosino-

9. Baum EW, Sams WM Jr, Monheit GD. Angiolymphoid hyperplasia with eosino-


Oncol. 1982;8:966-970.
10. Wells GC, Whimster IW. Subcutaneous angiolymphoid hyperplasia with eosino-

11. Person JR. Angiolymphoid hyperplasia with eosinophilia may respond to pen-

12. Massa MC, Freitzen DF, Chovdhuury L, Sweet DL. Angiolymphoid hyperplasia dem-
14. Hazen PG, Carney JF, Evangelista E. Angiolymphoid hyperplasia with eosino-

philia: removed with carbon dioxide laser in a patient on chronic oral anticoagu-

17. Vallis RC, Davies DG. Angiolymphoid hyperplasia of the head and neck. J Laryn-