Successful Treatment of Kimura's Disease with a 595-nm Ultra-Long Pulsed Dye Laser

Jae Eun Choi, Soo Hong Seo, Il Hwan Kim, Young Chul Kye and Sang Wook Son*
*Department of Dermatology, Korea University Medical College, #516, Gojan-dong, Danwon-gu, Ansan-si, Kyungki-do, 425-707, South Korea. *E-mail: skin4u@korea.ac.kr*
Accepted December 3, 2007.

Sir,

Kimura's disease (KD) is a rare, chronic inflammatory disorder that occurs predominantly in Asian males and is characterized by recurrent painless swellings involving the subcutaneous tissues, mainly in the head and neck region. It is also associated with eosinophilia and elevated levels of serum IgE. The histological features of KD are hyperplastic lymphoid tissue with well-developed lymphoid follicles, marked infiltration of eosinophils and vascular proliferation. Treatment is known to be difficult. We report here a case of KD that was treated successfully with an ultra-long pulsed dye laser (PDL).

CASE REPORT

A 53-year-old Korean man presented with a 4-month history of asymptomatic multiple nodules on his left thigh. Examination revealed multiple, non-tender, firm and fixed nodules localized on the posterolateral side of the left thigh, with violaceous overlying skin colour (Fig. 1a). He was otherwise healthy. There was no regional lymphadenopathy, but his peripheral eosinophil count was increased to 23.3% (normal range: 0–6%). Histopathological examination showed dense lymphocytic infiltration with lymphoid follicles, some scattered eosinophils and numerous vascular structures (Fig. 2).

Intralesional corticosteroids were administered for 6 months, but were not effective. Subsequently, an ultra-long PDL, which has been reported to be used successfully to treat angiolymphoid hyperplasia with eosinophilia (ALHE) (1–4), was applied. The lesions were treated at 595 nm using a 7-mm diameter spot size and 3-ms pulse duration at 10 J/cm^2. The treatment was applied with 2 or 3 pulses stacking and the dynamic cooling device was set with a 30-ms spray and a 30-ms delay. Two months after the initial treatment, significant reduction in the violaceous colour and the size of palpable nodules was observed. A second treatment was given at 11 J/cm^2. Two months later there were only faint brownish patches with no evidence of persistent palpable mass or violaceous skin colour, without post-treatment scarring (Fig. 1b). At 1-year follow-up there was no evidence of recurrence.

DISCUSSION

KD and ALHE were initially thought to represent two ends of the same disease spectrum because of their clinical and histopathological similarity. ALHE is a benign vascular proliferative disorder that occurs predominantly in young to middle-aged females of any race. Histopathologically it is characterized by more diffuse lymphoid infiltration with only occasional lymphoid follicles and florid vascular proliferation with hypertrophic "epithelioid" endothelial cells. However, there are now known to be many differences that warrant their distinction as two separate disease entities (5, 6). Our case displayed features consistent with KD, in that the lesions were located on the thigh of an Asian man, and there were histopathological findings of predominant lymphoid follicles and blood vessels consisting of flat endothelial cells. Vascular proliferation was also prominent, as in some reported cases of KD (7, 8).

To date, there is no consensus on the optimal treatment of KD. We hypothesized that an ultra-long PDL might be effective in KD as well as in ALHE, in that KD also has an increased vascular structure, although not as much as that of ALHE. The rationale for using

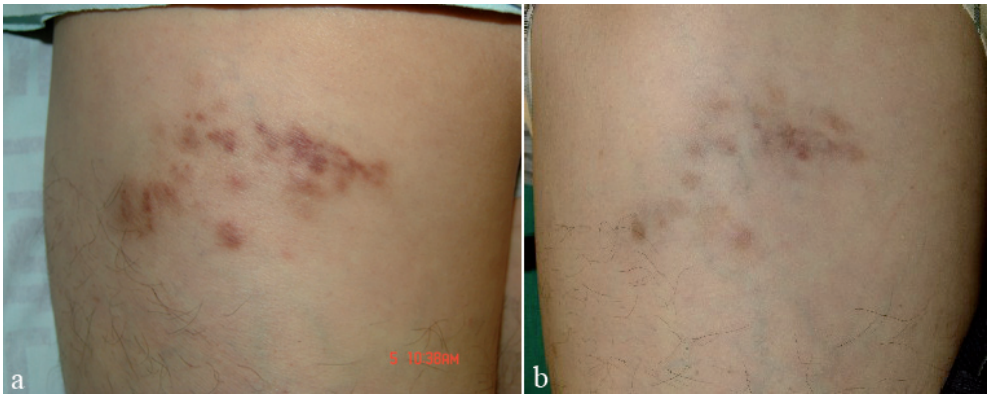

Fig. 1. (a) Mutiple non-tender, firm and fixed nodules on the posterolateral side of the left thigh with overlying violaceous skin colour. (b) After 2 treatments with the 595-nm ultra-long pulsed dye laser given over a period of 2 months.

doi: 10.2340/00015555-0428

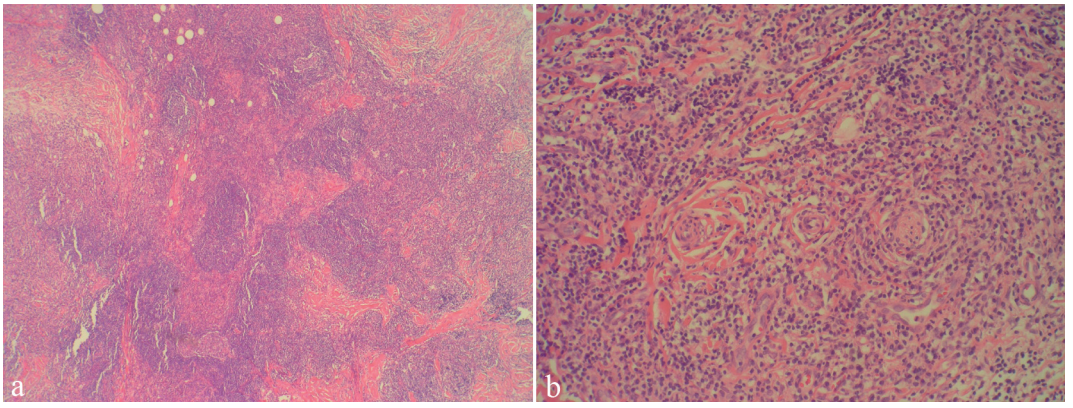

Fig. 2. (a) Lymphoid follicles with proliferative blood vessels with eosinophilic infiltrate and fibrosis (H&E ×40). (b) Numerous vascular structures in the dermis with lymphocytic and eosinophilic cell infiltration (H&E ×200).

the 595-nm ultra-long PDL in KD, as well as in ALHE, is that it is possible selectively to target the haemoglobin within the increased vascular structures of these conditions and eliminate the lesion without scarring (4). The ultra-long pulse width delivers greater energy to targeted blood vessels over longer periods of time to enable effective destruction of larger vessels, avoiding the photo-acoustic response. In addition, the dynamic cooling device allows the safe use of higher fluences and the longer wavelength of 595 nm penetrates deeper into the dermal tissue.

We conclude that 595-nm ultra-long PDL may be a useful treatment for KD. Although KD is regarded as an allergic or autoimmune disease, the increased vascular structure in this condition may play an important role in its pathogenesis.

REFERENCES

1. Lertzman BH, McMeekin T, Gaspan AA. Pulsed dye laser treatment of angiolymphoid hyperplasia with eosinophilic lesions. Arch Dermatol 1997; 133: 920–921.
2. Papadavid E, Krausz T, Chu AC, Walker NP. Angiolymphoid hyperplasia with eosinophilia successfully treated with the flash-lamp pulsed-dye laser. Br J Dermatol 2000; 142: 192–194.
3. Rohrer TE, Allan AE. Angiolymphoid hyperplasia with eosinophilia successfully treated with a long-pulsed tunable dye laser. Dermatol Surg 2000; 26: 211–214.
4. Angel CA, Lewis AT, Griffin T, Levy EJ, Benedetto AV. Angiolymphoid hyperplasia successfully treated with an ultralong pulsed dye laser. Dermatol Surg 2005; 31: 713–716.
5. Chong WS, Thomas A, Goh CL. Kimura's disease and angiolymphoid hyperplasia with eosinophilia: two disease entities in the same patient. Case report and review of the literature. Int J Dermatol 2006; 45: 139–145.
6. Soo IC, Hye GJ. Kimura's disease and angiolymphoid hyperplasia with eosinophilia: clinical and histopathologic differences. J Am Acad Dermatol 1992; 27: 954–958.
7. Komine M, Tamaki K. Kimura's disease with prolonged history and prominent vascular involvement. Acta Derm Venerol 2005; 85: 360–362.
8. Helander SD, Peters MS, Kuo TT, Su WP. Kimura's disease and angiolymphoid hyperplasia: new observations from immunohistochemical studies of lymphocyte markers, endothelial antigens, and granulocyte proteins. J Cutan Pathol 1995; 22: 319–326.