

**Figure 2.** Histopathologic examination. A, The lesion shows an exophytic growth pattern with papillomatosis (left; original magnification  $\times 40$ ) and acanthosis (right; original magnification  $\times 100$ ) (hematoxylin-eosin). B, Hemorrhage within parakeratotic column (hematoxylin-eosin, original magnification  $\times 40$ ). C, Multiple koilocytes with perinuclear halo formation (white arrow) and a homogeneous intracytoplasmic inclusion body (black arrow) (hematoxylin-eosin, original magnification  $\times 200$ ). D, Melanin blockade melanocytes (Masson-Fontana stain, original magnification  $\times 200$ ); inset, overall appearance of melanin blockade melanocytes and increased melanin granules under Masson-Fontana stain (original magnification  $\times 40$ ).

A rare pigmented type of genital wart may clinically mimic other pigmented lesions such as melanocytic nevi, pigmented seborrheic keratosis, and even a melanoma of a verrucous type. Dermoscopic findings mostly suggestive of a nonmelanocytic skin tumor together with histopathologic findings established the correct diagnosis in this case. To the best of our knowledge, this is the first case report of a pigmented genital wart with hemorrhage seen in a non-Japanese patient, described herein with its dermoscopic features.

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1. Egawa K, Honda Y, Inaba Y, Ono T. Pigmented viral warts: a clinical and histopathological study including human papillomavirus typing. *Br J Dermatol.* 1998;138(3):381-389.
2. Rohde H. Condyloma acuminata, a rare pigmented kind. *Dtsch Med Wochenschr.* 2003;128(10):491-492.
3. Kimura S. Condylomata acuminata with pigmented papular lesions. *Dermatologica.* 1980;160(6):390-397.

4. Zalaudek I, Argenziano G, Di Stefani A, et al. Dermoscopy in general dermatology. *Dermatology.* 2006;212(1):7-18.
5. Kreusch JF. Vascular patterns in skin tumors. *Clin Dermatol.* 2002;20(3):248-254.

### Successful Treatment of Darier Disease With the Flashlamp-Pumped Pulsed-Dye Laser

**Report of a Case.** A 42-year-old woman presented with histologically confirmed keratosis follicularis (Darier disease) of 9 years' duration. Clinical findings included a right submammary area of hyperkeratotic weeping papules occurring as plaques in clusters (Figure 1). The patient was most disturbed by the intense pruritus, weeping, and the related odor. There was no involvement elsewhere on her skin and no family history of Darier disease.

Treatments with topical retinoic acids, steroids, antiseptic disinfectant solutions, and oral antibiotics had no effect. The patient did not consent to treatment with systemic isotretinoin.

In September 2005, a  $2 \times 2$ -cm<sup>2</sup> test site was treated with flashlamp-pumped pulsed-dye laser (FPDL) (585 nm, 6.5 J/cm<sup>2</sup>, 12 mm, and 0.5 milliseconds) (V-Star; Cy-nosure Inc, Westford, Massachusetts). Another site of the



**Figure 1.** Clinical appearance of Darier disease before treatment.



**Figure 2.** Clinical appearance of Darier disease at 15-month follow-up after 1 treatment session with flashlamp-pumped pulsed-dye laser.

same size was treated with a carbon dioxide laser (400 mJ/cm<sup>2</sup>) (Ultrapulse 5000; Coherent Inc, Santa Clara, California). In terms of adverse effects, the site treated with FPDL showed 2 weeks of purpura with mild crusting. The site treated with carbon dioxide laser also had a 2-week period of well-defined crusting after initial erosion.

After 4 weeks, eruption recurred at the site treated with the carbon dioxide laser. The FPDL test site showed a marked improvement.

When the patient was seen again after 9 months, the test site was still free of recurrence. The entire area was then treated with FPDL (585 nm, 6.5 J/cm<sup>2</sup>, 12 mm, and 0.5 milliseconds). Monitoring after 8 weeks revealed discrete residual areas of individual follicular papules. The weeping and the odor had resolved. The patient was so pleased with the results that she did not request any additional sessions. The follow-up examination 15 months later showed no changes and no recurrence (**Figure 2**).

**Comment.** The few articles published about laser treatment of keratosis follicularis deal only with ablative lasers.<sup>1,2</sup> The risk of scarring and permanent hyperpigmentation are potential problems of ablative procedures (such as carbon dioxide lasers, erbium:YAG lasers, dermabrasion, or electro-surgical excision). In addition, sufficient depth of ablation appears to be crucial because superficial treatment results in early relapse. Consequently, ablating the papillary dermis is recommended for successful treatment.<sup>3</sup> Our objec-

tive was to find a therapeutic approach as effective as, or more effective than, the use of ablative lasers.

The primary known mechanism of action of an FPDL is selective photothermolysis. The effect also seems to be related to mechanisms that are not yet fully understood, such as immunomodulation.<sup>4</sup> We believe that thick plaque-like manifestations of Darier disease that resemble psoriasis probably cannot be effectively treated with the FPDL due to the limited penetration depth (1.0-1.5 mm). It would have been interesting to have taken a follow-up biopsy specimen from the treated site, but unfortunately the patient did not consent.

While the FPDL mechanism of action has not yet been resolved, the success witnessed in the present case study justifies the use of the FPDL in treating Darier disease, for which no spontaneous remissions have been described.<sup>5</sup>

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1. McElroy JA, Mehregan DA, Roenigk RK. Carbon dioxide laser vaporization of recalcitrant symptomatic plaques of Hailey-Hailey disease and Darier's disease. *J Am Acad Dermatol.* 1990;23(5, pt 1):893-897.

2. Beier C, Kaufmann R. Efficacy of erbium:YAG laser ablation in Darier disease and Hailey-Hailey disease. *Arch Dermatol*. 1999;135(4):423-427.
3. Cooper SM, Burge SM. Darier's disease: epidemiology, pathophysiology, and management. *Am J Clin Dermatol*. 2003;4(2):97-105.
4. Karsai S, Roos S, Hammes S, Raulin C. Pulsed dye laser: what's new in non-vascular lesions? *J Eur Acad Dermatol Venerol*. 2007;21(7):877-890.
5. Burge S. Darier's disease—the clinical features and pathogenesis. *Clin Exp Dermatol*. 1994;19(3):193-205.

### Therapeutic Effect of Argatroban on Rheumatoid Vasculitis With Antiphosphatidylserine-Prothrombin Complex Antibody

Rheumatoid vasculitis (RV) is an inflammatory condition of the small and medium-sized vessels that affects a subset of patients with established rheumatoid arthritis (RA). Detection of antiphospholipid cofactor antibodies including antiphosphatidylserine-prothrombin complex (aPS/PT) antibodies in addition to the classic anticardiolipin antibodies and lupus anticoagulant (LAC) seems to be of considerable clinical importance.<sup>1</sup> Argatroban is a synthetic monovalent direct anticoagulant and thrombin inhibitor.<sup>2</sup>

**Report of a Case.** A 70-year-old Japanese woman had a 35-year history of RA. Her disease had not responded well to treatment with intramuscular gold, methotrexate, D-penicillamine, azathioprine, or cyclosporine. She presented with a 2-week history of skin lesions with myalgias and arthralgias on her lower extremities. She complained of bilateral ankle numbness and a rapid increase in the intensity of her symptoms.

Examination revealed cutaneous ulcerations and livedo reticularis scattered over her legs. She developed leg ulcers along the lateral malleolus and pretibial region despite therapy with prednisone (20 mg/d) and salazosulfapyridine (1 g/d). The ulcers were deep and appeared mostly on the lower extremities during 3 weeks of therapy (**Figure 1A**).



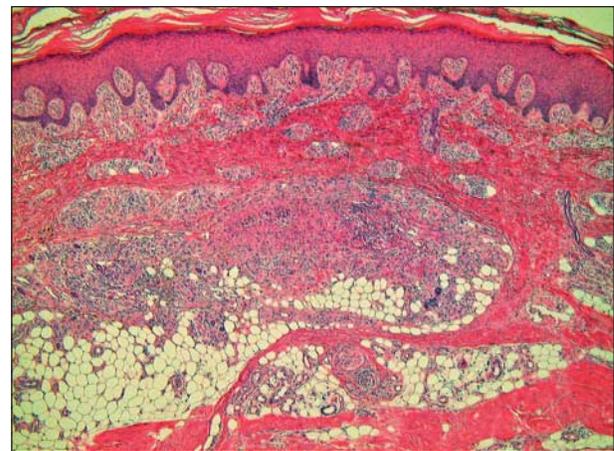
**Figure 1.** Deep skin ulcerations with livedo reticularis present on left lower extremities before (A) and within 2 months after (B) argatroban therapy was initiated.

According to the guidelines recommended by Brandt et al,<sup>3</sup> the presence and levels of LAC were screened for by measuring diluted Russell viper venom time and kaolin clotting time, and confirmed by mixing studies and demonstration of phospholipid dependence. The presence and levels of IgG and IgM aPS/PT were determined with a specific enzyme-linked immunosorbent assay (Medical & Biological Laboratories, Nagoya, Japan). We found that IgM aPS/PT antibodies were present in the patient's serum at a high titer (70 U/mL), but IgG aPS/PT antibodies, LAC, anticardiolipin, and anti- $\beta_2$ -glycoprotein I-dependent cardiolipin antibodies were not detected.

Two skin biopsy specimens were obtained from the ulcer edge on her lower extremities. Microscopic examination showed necrotizing vasculitis infiltrations and thrombosis in the small vessels through the dermis to the subcutaneous fat (**Figure 2**). Treatment with intravenous argatroban injection (2.0  $\mu$ g/kg/min) was started, 2 h/d, and continued for 4 weeks leading to an improvement in symptoms, including a remarkable decrease in joint pain and swelling and a reduction in skin ulceration (**Figure 1B**). At 6 months' follow-up, there was no evidence of recurrence of the skin lesions.

**Comment.** Systemic glucocorticosteroids and/or nonsteroidal immunosuppressive agents represent the mainstay of therapeutic options for RV. However, long-term systemic administration of these compounds may be limited by severe adverse effects. Argatroban has been reported to have a safe and potent antithrombin action.<sup>2</sup> This antithrombin action is believed to reflect remarkable improvement in microcirculation. Our patient's response to this regimen indicates that recalcitrant vasculitic leg ulcers associated with RV may be successfully treated with argatroban.

To our knowledge, we describe the first patient with RV who also tested positive for aPS/PT antibodies. Anionic phospholipids such as cardiolipin and phosphatidylserine, which are not normally expressed on the surface of viable cells, are translocated to the surface of the plasma membrane of cells during apoptosis.<sup>4</sup> Some studies have shown that prothrombin binds specifically to the



**Figure 2.** A lesional skin biopsy specimen reveals typical necrotizing vasculitis through the dermis to the subcutaneous fat (hematoxylin-eosin, original magnification  $\times 40$ ).