

Treatment of Schamberg's Disease with Advanced Fluorescence Technology

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ABSTRACT

Schamberg's disease is a pigmented purpuric dermatosis that is generally asymptomatic, however, patients with Schamberg's disease often seek treatment for aesthetic improvement. Many topical and systemic therapies have been tried without consistent results. This case series describes the treatment of five patients with Schamberg's disease of the lower extremities using Advanced Fluorescence Technology (AFT) pulsed light with favorable results.

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CASE REPORT

Schamberg's disease is a pigmented purpuric dermatosis characterized by petechial hemorrhage believed to be secondary to capillaritis.¹ Patients are generally asymptomatic, often seeking treatment for cosmetic reasons. Many treatments have been proposed, including topical and oral steroids, pentoxifylline,² griseofulvin,³ psoralen and UVA,⁴ narrow band UVB,⁵ oral bioflavonoids and ascorbic acid,⁶ colchicine,⁷ and others. No single treatment has proven to be consistently effective, and most have the possibility of systemic side effects. We report five cases of clinically diagnosed Schamberg's disease treated with advanced fluorescence technology (AFT)—a new-generation pulsed light based handpiece.

Three male patients and two female patients, aged between 65 and 84 years (mean 72.4 years), presented with pigmented purpuric eruptions on the lower extremities that were clinically characteristic of Schamberg's disease (Table 1). All of these patients had stable disease for at least six months, with no change in quantity or quality of eruptions. They were all asymptomatic and sought therapy for cosmetic purposes. Four of the patients were treatment naïve, while one had previously failed treatment with fluocinonide 0.05% cream. The treatment consisted of pulsed light therapy using a 570 nm AFT handpiece with fluence of 12 to 14 J/cm², and pulse width of 12 to 15 ms (Harmony XL; Alma Lasers). Treatments were performed in 4 to 6 week intervals until patient satisfaction was achieved. No other therapies were used. All five patients responded favorably to therapy and achieved cosmetic satisfaction in 1 to 3 treatments with no reported adverse events. No recurrences were observed after 6 months of follow up.

The pigmented purpuric eruptions of Schamberg's disease classically involve the lower extremities and are characterized as yellow-brown oval or irregular patches with overlaying red-brown "cayenne-pepper" macules.¹ Histopathology usually demonstrates perivascular infiltrates of lymphocytes and macrophages, extravasations of erythrocytes, and variable hemosiderin within macrophages.⁸

Intense Pulsed Light (IPL) devices are versatile and have been used for vascular lesions, hair removal, pigmented lesions, photodynamic therapy, and photorejuvenation. Vascular lesions are treated via selective absorption of IPL by hemoglobin within vessels, which generates heat and induces localized thermal damage.⁸ We hypothesized that AFT could similarly improve the cosmetic appearance of Schamberg's disease eruptions by selectively targeting hemosiderin within macrophages and hemoglobin within extravasated erythrocytes.

The 570 nm AFT handpiece with its moderate fluence and optimal pulse width were found to be amendable and safe for the treatment of Schamberg's disease. Settings may need adjustments according to the patient's skin type, and patients should always undergo a test spot to assess for adverse effects prior to treatment. Increasing the fluence could potentially improve efficacy, but it also augments the risk of adverse outcomes. Between treatments, patients may have streaks of untreated areas that stand out. These areas should be specifically targeted in subsequent treatments to obtain more homogenous cosmetic results. We found no side effects such as blistering and pigmentary alterations in any of our patients.

TABLE 1.**Five patients clinically diagnosed with stable Schamberg's disease treated with Advanced Florescence Technology.**

Age (years)	Sex	Number of treatments
84	F	2
66	M	1
65	M	2
70	M	2
77	F	3

FIGURE 1a. Lower extremities of a female, aged 77 years, prior to first treatment with Advanced Florescence Technology.**FIGURE 1b.** Four weeks after completing second treatment with Advanced Florescence Technology.

Schamberg's disease can be difficult to treat because of the lack of reliable therapies and the potential systemic side effects of oral medications. We describe a therapeutic approach to locally treat and improve the cosmetic appearance of patients with Schamberg's disease. In addition, this method avoids the possible side effects of systemic therapies. While clinical studies should be performed on larger patient populations, our experience has demonstrated that 570 nm AFT handpiece should be considered a viable and safe option in the treatment of Schamberg's disease. Our experience with this method has been limited to patients with clinically stable eruptions; however, the use of AFT therapy in combination with other agents such as pentoxifylline presents a prospective intervention for future study on patients with active disease.

DISCLOSURES

The authors have no relevant conflicts of interest to disclose.

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