

in 2008 in which Diaz et al<sup>9</sup> described a patient treated with adalimumab for rheumatoid arthritis whose lesions developed 2 months after the start of biologic treatment; and the third reported by Adenis-Lamarre et al<sup>10</sup> in 2009 in a patient with rheumatoid arthritis receiving adalimumab who developed skin lesions and was subsequently diagnosed with *M chelonae* infection.

Our case differs from those described above in the duration of treatment of the patient with adalimumab (6 years) because in the other cases reported, the infection developed within a few months of the start of treatment. We are also of the opinion that our patient's osteomyelitis may also have been caused by the *M chelonae* infection, although this hypothesis could not be confirmed by histology or microbiology because the patient had already been receiving appropriate antibiotic therapy for 15 days when samples were obtained.

In conclusion, anti-TNF therapy has been associated with opportunistic infections and patients receiving such therapy should be considered to be immunosuppressed. The risk level for infection due to nontuberculous mycobacteria in these patients is not yet known. However, the frequent presence of additional risk factors, such as concomitant treatment with other immunosuppressants (corticosteroids, methotrexate) and the underlying disease itself, make it difficult to estimate the specific weight of these new drugs in the process.

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## Intense Pulsed Light Therapy for Lupus Pernio<sup>☆</sup>

### Tratamiento de lupus pernio con luz pulsada intensa

*To the Editor:*

Sarcoidosis is a multisystem granulomatous disease of unknown etiology that affects the skin in more than 25% of patients. Lupus pernio is the most characteristic skin feature and presents as infiltrated violaceous plaques that tend to have a symmetric distribution, mainly affecting acral areas: nose, cheeks, ears, lips, and forehead.<sup>1</sup> Multiple treatment options are currently available, but there are refractory cases in which alternative treatments are needed.

We report the case of a 54-year-old woman with no past history of interest, diagnosed 9 years previously with cutaneous sarcoidosis based on the presence of papular, erythematous-violaceous plaques on the elbows, knees, and dorsum of the nose, with necrotizing granulomas on skin biopsy. There were no clinical manifestations in other areas and the results of additional studies were normal except for slightly elevated levels of angiotensin-converting enzyme. During the first 5 years she was treated with topical and intralesional corticosteroids and chloroquine leading to acceptable control of the lesions on the elbows and knees but with persistence of lesions on the nose.

Given recurrent outbreaks, in addition to local treatment with corticosteroids she subsequently received systemic treatments with hydroxychloroquine, methotrexate, and allopurinol, leading to transient and unsatisfactory results.

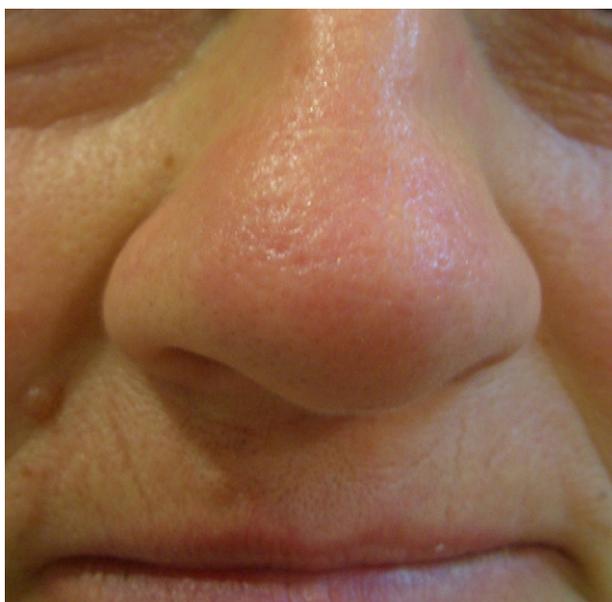
After the last outbreak, which mainly affected the dorsum of the nose in the form of an erythematous-violaceous plaque (Fig. 1), we decided to begin treatment with an intense pulsed light system (Photoderm-Vasculight) that provides polychromatic light in the range of 515–1200 nm,

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**Figure 1** Erythematous-violaceous plaque on the dorsum of the nose.

on which different cut-off filters (550, 570, 590 nm, etc.) can be mounted, in combination with a long-pulsed neodymium:yttrium-aluminum-garnet (Nd:YAG) laser (1064 nm). All sessions were conducted on an outpatient basis without the need for sedation or anesthesia. The 590-nm cutoff-filter was used and a double pulse of  $37 \text{ J/cm}^2$  (T1: 2.8 ms, T2: 2.8 ms) was delivered with 20-ms delays between pulses. The sessions were conducted between June 2006 and July 2008. In each session, the energy was slightly increased up to a fluence of  $45 \text{ J/cm}^2$ . The response to treatment



**Figure 2** Almost complete response to treatment with minimal erythema.

was almost complete (Fig. 2). Two years later the patient remained asymptomatic without treatment.

The guidelines remain unclear regarding the treatment of cutaneous sarcoidosis, since no randomized controlled studies have been conducted with sufficient numbers of patients by which to establish them,<sup>2</sup> thus we have to tailor treatment to each patient based on severity, associated comorbidities, and possible adverse effects. Regarding the treatment of localized lesions, Badgwell and Rosen<sup>3</sup> suggest that although topical and intralesional corticosteroids are the treatment of choice, laser therapy is an approach that should be considered in persistent lesions.

The first type of laser used to treat lupus pernio was the flashlamp pulsed dye laser in 1992 with good results, although relapses occurred after 6–10 months.<sup>4</sup> Subsequently, other cases with a good clinical response to treatment were published,<sup>5,6</sup> one of which demonstrated the persistence of granulomas on histologic study after treatment.<sup>5</sup>

Regarding carbon dioxide laser, we highlight the article by O'Donoghue and Barlow<sup>7</sup> on 3 patients. The first patient received concomitant low-dose oral corticosteroids for systemic disease and remained asymptomatic for 6 years. The other 2 patients, treated with carbon dioxide laser alone, presented relapses at 9 months and 14 months, respectively.

There are 2 references in the literature to treatment with the Nd:YAG laser. The first was in 2005, in which the Versapulse system (532 nm) was used in a patient who had previously been treated with a dye laser with limited results; Versapulse laser treatment produced significant clearance of the erythema and there was no recurrence after 3 years of follow-up.<sup>8</sup> The second report described 2 cases with a good response to potassium titanyl phosphate laser; one of the patients was receiving concomitant methotrexate therapy.<sup>9</sup>

Complications have been minimal, the most frequent being hypopigmentation and hyperpigmentation. Green et al.<sup>10</sup> presented a patient who developed ulcerative sarcoidosis in treated and untreated lesions after dye laser therapy.

Regarding the mechanism of action, it appears reasonable to assume that if we destroy the blood vessels through which the inflammatory mediators reach the focus, the sarcoidosis lesions, as well as those of other inflammatory processes such as lupus erythematosus, will disappear, at least temporarily.

In our opinion, treatments with pulsed light and with laser are associated with a good safety profile, are generally well tolerated, and should be considered in patients with localized cutaneous sarcoidosis refractory to conventional treatments. However, large controlled studies are needed in order for these to be considered first-line treatments.<sup>2</sup>

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## Sarcoid-type Allergic Contact Granuloma Caused by Earrings in a Boy<sup>☆</sup>

### Granuloma alérgico de contacto tipo sarcoideo por pendientes en un niño

To the Editor:

The formation of cutaneous sarcoid-type allergic contact granuloma is rare and was first reported by Mann et al.<sup>1</sup> over 20 years ago in a patient who used gold earrings. We recently studied the case of a child who developed a sarcoid-type allergic contact granuloma on the ear after wearing several earrings containing a range of metals including palladium.

The patient, an 11-year-old boy with no relevant medical history, visited his pediatrician in January 2008 with an asymptomatic papule on the lobe of his left ear. The papule had appeared 3 years earlier, specifically 3 months after the boy had started wearing an earring. The lesion was removed in the general surgery department and the patient was referred to our department with a histology report describing a "sarcoidal granulomatous infiltration with no evidence of refringent material in the sample" (Fig. 1). Physical examination revealed a papule with residual scarring on the lobe of the left ear but there were no other relevant mucocutaneous or systemic findings. A chest radiograph and laboratory tests, including angiotensin-converting enzyme and serum and urine calcium measurements, ruled out systemic sarcoidosis.

Skin patch tests were performed using the standard series of the Spanish Contact Dermatitis and Skin Allergy Research Group (GEIDAC) (T.R.U.E. TEST; Mekos Laboratories), additional allergens from Chemotechnique Diagnostics, and a series of 33 metal allergens provided by Marti Tor. Readings were performed at 48, 96, and 168 hours. At 168 hours (day 7), positive reactions were observed for palladium chloride (++) , platinum chloride (++) , ammonium tetrachloroplatinate (++) , and mercury (++) . In all cases, the lesions had an eczematous appearance (Fig. 2).

Inductively coupled plasma mass spectrometry (ICP-MS) was used to determine the metal content of the 3 earrings (M1, M2, and M3) brought in by the patient (Table 1). The main component in all 3 earrings, including the one that had triggered the initial skin reaction (M1), was palladium. Based on these results, we established a diagnosis of allergic contact granuloma due to palladium.

The patient had 2 positive reactions on his back when examined 3 months later. The first was a persistent reaction to the palladium chloride patch. The lesion no longer had an eczematous appearance and was firm on palpation, suggesting granulomatous infiltration. Biopsy was not possible, however, as the parents withheld their consent. The second reaction was similar to the first and was located at the site of the beryllium patch, which had tested negative on day 7. The reaction was interpreted as an active sensitization. The patient had stopped wearing earrings and no recurrent lesions were identified, either on the ear lobes or at other sites. Further examination was not possible as the patient did not return for any of the scheduled follow-up visits.

Since the European Nickel Directive came into force on July 2001 limiting the amount of nickel that can be used in jewelry or released during its use, the availability of so-called safe earrings has become widespread. While these earrings contain little or no nickel they do contain other metals.<sup>2</sup> ICP-MS analysis of the earrings brought in by the patient revealed the presence of expected metals, such as palladium, but it also showed unexpected metals that could, in the future, cause unknown or potentially dangerous adverse reactions. One example is gadolinium, which was detected in all 3 earrings, and in 1 of them, in considerable concentrations.

Among other allergens, our patient was sensitized to palladium and platinum, but not to nickel. Because mass spectrometry showed that the earring that had triggered the initial reaction (M1) contained palladium as a major component and did not contain platinum, our final diagnosis was allergic contact granuloma due to palladium. The positive reaction to platinum was interpreted as a concomitant or cross-reaction with palladium, as both metals are in the same group in the periodic table.

Apart from palladium, numerous metals (and sources of exposure) have been implicated in granulomatous allergic contact dermatitis. These include beryllium (mining, fluorescent lighting tube and beryllium alloy production);

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