In situ and distant foreign body granulomas caused by silicone. Treatment with allopurinol

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Sir, Polymerized silicone is a permanent material used for cosmetic enhancement procedures, mainly soft tissue augmentation and correction of facial age-related wrinkles. Foreign body reactions have been detected at sites of silicone injection. Anecdotally, silicone granulomas have also been found at sites distant from the treatment. We report a woman who developed local and distant foreign body reaction 7 years after silicone injections into the crow’s-feet area and upper lip. She was successfully treated with allopurinol.

A 62-year-old woman was referred to our clinic with firm nodules, tender to pressure, on the crow’s-feet area, external border of the eyes, eyebrows and upper lip (Fig. 1a). She also presented symmetrical shiny erythematous papulonodular lesions on her knees. The patient reported swelling and redness of these areas 8 weeks previously, after the appearance of persistent confluent nodules. She first denied but then admitted that she had been injected with a filler 7 years earlier to correct wrinkles in the crow’s-feet area and upper lip. She showed no symptoms or autoimmune diseases for the first 6 years after the injection. Biopsy of the crow’s-feet area showed multiple clear spaces of varying sizes in the dermis and multinucleated epithelioid cells containing small refractile particles, characteristic of silicone granulomas. The same histology was observed in a skin biopsy from the knee. Anti-nuclear antibodies were negative. Chest X-ray and angiotensin-converting enzyme levels were normal. She was treated with allopurinol 300 mg daily and all the lesions disappeared within 2 months (Fig. 1b). The patient had no recurrence 1 year after treatment.

Fig 1. Nodules grouped around crow’s-feet area, external border of eyes, eyebrows and upper lip, before (a) and after treatment with allopurinol (b). Note the increase in wrinkles and expression lines after the decrease in facial swelling.
Fillers are now available in dermatology to treat wrinkles and other soft tissue defects, using fluid or solid materials, resorbable nonpermanent (autologous fat, bovine collagen solution and hyaluronic acid) or nonresorbable permanent (silicone oil and polymethylmethacrylate microsphere) fillers. The durability of the correction with resorbable fillers is for a very short time. The risks of using permanent fillers can manifest themselves years after injection and may be difficult to treat. Polymerized silicone is considered biologically inert and has been used during the past decades for soft tissue augmentation, although there are a few reported cases of anomalous granulomatous reactions.

Several recent reports described adverse effects such as swelling, redness or painful and granulomatous skin lesions months or even years after filler implantation. Silicone can be detected in axillary lymph nodes of patients with ruptured silicone gel breast implants, and has also been found at distant sites, including the soft tissue of the chest, shoulder, arm and antralibial fossa. Anecdotally, distant (metastatic) silicone granulomas have been described in skin or other organs of patients with silicone gel breast implants.1,2 The implant contents might have spread, fragmented and have been delivered haematogenously or lymphogenously to other skin areas. An immunological reaction can also be hypothesized to have produced the distant lesions in the present patient.

The mechanism of action of allopurinol in this patient is unknown. Allopurinol has been used for the treatment of cutaneous sarcoidosis.3 Free radicals may play an important role in the pathogenesis of granulomatous diseases, and allopurinol acts as a free radical scavenger.4 Recently, a patient with foreign body granulomas caused by polymethylmethacrylate microspheres was successfully treated with allopurinol.5 Foreign body granulomas caused by fillers are usually observed near filler-injected areas, although they can also be found at distant sites. The risks of using permanent fillers can manifest themselves years after injection. To our knowledge, this is the first case of local and distant silicone granulomas successfully treated with allopurinol.

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