European **Rev**iew for **Med**ical and **Pharmacol**ogical **Sci**ences 2021; 25: 2478-2480

Letter to the Editor

Polyautoimmunity (Psoriasis, Sjogren's syndrome, and autoimmune uveitis) following polymethylmethacrylate injection

Dear Editor,

Autoimmune/inflammatory syndrome induced by adjuvants (ASIA) is a recently described autoimmune disorder characterized by autoimmune manifestations or disease development after adjuvants contact[1]. Adjuvants, which are considered safe and effective, can be commonly found in vaccine products, immunization substances, mineral oils, cosmetics, silicone breast implants, and other therapeutic/medical devices. Although, in a fraction of genetically susceptible and predisposed subjects, the administration of these substances may lead to the onset of serious adverse effects, due to the activation of autoimmunity, *via* disrupting the immunological balance of the host, due to a bystander polyclonal activation of B lymphocytes, molecular mimicry or other pathophysiological mechanisms[1,2]. In the detailed description mentioned above, 12.5% of the cases were associated with silicone implants, mineral oils, polyacrylamide gel, hyaluronic acid, and others[3,4]. However, to the best of our knowledge, a case of polyautoimmunity syndrome after polymethylmethacrylate (PMMA) has not been previously reported.

A 58-year-old female patient with Hashimoto thyroiditis was submitted in 2004 to a polymethylmethacrylate injection (New Plastic®) on her zygomatic region bilaterally 2 mL each side, for esthetic reasons. A few days later, she evolved with marked facial edema and local nodule formation; she was treated with local steroid injections (triamcinolone) and systemic steroid injections, with no improvement and evolved with facial deformity. In 2008, she had recurrent vaginal candidiasis and received a "Candida vaccine". After that, she advanced with marked worse facial edema and erythema. The content of this vaccine is unknown. In 2009 she had a red eye (Figure 1) with a reduction of visual acuity, and an autoimmune uveitis was diagnosed. In 2015, she started xerostomia, xerophthalmia, xeroderma, and severe fatigue. Her Schirmer and Bengal rose tests and salivary test were positive, with positive antinuclear antibodies. A diagnosis of Sjogren's syndrome was determined. She was submitted to a partial exeresis of the facial PMMA, and after surgery, she experienced a local improvement of her condition, and she did not need more steroids. In 2016, she was diagnosed with psoriasis by dermatologists (Figure 2), and it was confirmed by a skin biopsy. She was treated with topical steroids, methotrexate, and then ustekinumab 45 mg every 3 months, and she had an excellent response. Although health insurance has replaced this drug with secukinumab, no response was seen, and then risankizumab was started, and she received 4 doses. No response until now was observed. 25-OH-vitamin D was 10.7 ng/mL (nr: > 30 ng/mL), erythrocyte sedimentation rate of 8 mm/1st hour. CD4 count was 835, CD8 was 248, and CD3 1135, all within the normal range. Cell blood count and blood biochemistry were normal. A diagnosis of ASIA was done based on the adjuvant exposure, development of autoimmune conditions (uveitits, Sjogren syndrome and psoriasis), and partial improvement after PMMA partial exeresis[1]. She was treated with vitamin D3 50,000IU/week and hydroxychloroquine 400 mg/day. It was requested to revisit the plastic surgery to try to remove more PMMA from her face. She is waiting for the new procedure.

Complications associated with PMMA injections are well known and include nodule and granuloma formation, infections, chronic inflammatory local reactions, lymphedema, and tissue

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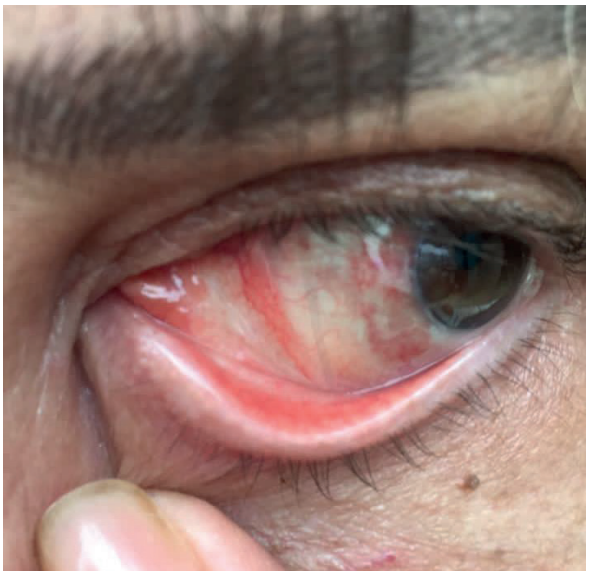

Figure 1. Red eye with autoimmune uveitis.

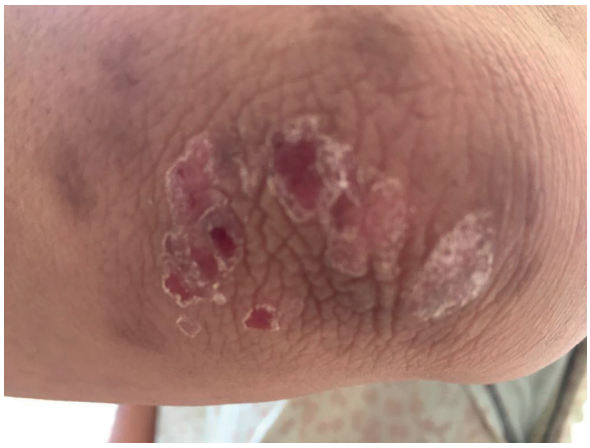

Figure 2. Erythematous and desquamative lesion on the elbow compatible with psoriasis.

necrosis. More recently, there are descriptions of hypercalcemia years after PMMA injections. The development of granulomas in the local sites of PMMA is well known, and these granulomas may induce 1-25-hydroxy-vitamin D synthesis and consequent hypercalcemia[5]. There are reports of sarcoidosis-like disease in patients who received parenteral PMMA[6].

Neither previous cases of SS nor psoriasis after PMMA have been found in the literature. Although, regarding eye complications of PMMA, there are some reports that eye lens implants composed by PMMA may induce eye inflammation[8,9].

Conflict of Interest

The Authors declare that they have no conflict of interests.

Acknowledgments

The author is in doubt with Sergio Ribeiro for the English revision of the manuscript.

Authors' Contribution

JFC: Conception, analysis, writing, interpretation, revision, submission.

Ethical Statement

The author declares that he followed the World Medical Association Declaration of Helsinki in this study. An informed consent was obtained from the patient for publication of her case.

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