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AUTOIMMUNE/INFLAMMATORY SYNDROME INDUCED BY ADJUVANTS (ASIA) AFTER SILICONE BREAST IMPLANTS

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ABSTRACT

Autoimmune/inflammatory syndrome is a complex condition characterized by various autoimmune and inflammatory symptoms following the exposure to an adjuvant such as silicone. Autoimmune/inflammatory syndrome induced by adjuvants (ASIA) is challenging to diagnose because it can mimic other autoimmune diseases and requires specific criteria for identification.

We report a case of a 35-year-old woman who developed inflammatory joint pain, fatigue and myalgia after receiving silicone breast implants. Symptoms improved significantly after administration of steroids. Based on the fulfilment of the ASIA diagnostic criteria, the diagnosis was made. This case emphasizes the importance of understanding this condition in patients with unexplained systemic symptoms after exposure to adjuvants.

KEYWORDS

ASIA, silicone breast implants, inflammatory joint pain

LEARNING POINTS

- Autoimmune/inflammatory syndrome induced by adjuvants (ASIA) should be considered in patients with unexplained systemic symptoms following exposure to adjuvants.
- Steroids can offer significant symptom relief; however, implant removal may be necessary if symptoms persist or recur.
- Awareness of ASIA can help in early diagnosis, and in improving patient outcomes.

INTRODUCTION

Autoimmune/inflammatory adjuvant disease (ASIA) is a complex disease related to the use of adjuvants, such as silicon and aluminium salts, which are found in vaccines and medical implants. We report a case of a 35-year-old woman who developed inflammatory joint pain, fatigue, and myalgia after receiving silicone breast implants. Her clinical manifestations and laboratory findings met the criteria for ASIA.

CASE REPORT

A 35-year-old woman, who had undergone a silicone breast implant procedure 8 months previously, presented with inflammatory joint pain of the distal interphalangeal (DIP)

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and proximal interphalangeal (PIP) joints, wrists, and elbows, accompanied by fatigue, myalgia and low-grade fever. The patient had no personal or family history of systemic, autoinflammatory, or infectious diseases.

Physical examination of the breasts showed no inflammatory signs, and no nipple discharge. Musculoskeletal examination revealed synovitis in the 3rd and 4th PIP joints of the right hand. The patient reported pain upon mobilization of the elbows, ankles and knees, with no synovitis.

Laboratory workup showed an elevated C-reactive protein (CRP) level of 35 mg/l and an erythrocyte sedimentation rate of 75 mm in the first hour. Renal and hepatic functions were normal. Ferritin and creatine kinase levels were within normal ranges. Serology for hepatitis B, hepatitis C, human immunodeficiency virus, and syphilis was negative. The autoimmune panel, including antinuclear antibodies, rheumatoid factor, and anti-CCP, was negative. Imaging tests, including breast ultrasound, mammography, and computed tomography (CT) scan of the chest, abdomen and pelvis, were normal. While osteoarticular ultrasound showed synovitis of the interphalangeal joints, wrists, and shoulders.

The patient was initially treated with indomethacin (50 to 100 mg daily), which provided mild improvement in synovial symptoms, though myalgia and fatigue persisted. After 3 weeks of treatment, corticosteroid therapy was initiated at 20 mg daily, leading to significant improvement in musculoskeletal symptoms, reduction in fatigue, and a decrease in CRP to 7 mg/l.

The diagnosis of ASIA was thus established. The patient is currently maintained on steroids, and eventually removal of her silicone breast implants.

DISCUSSION

The concept of ASIA was introduced in 2011 by Schoenfeld and Agmon-Levin, to describe conditions sharing similar signs such as siliconosis, Gulf War syndrome, and post-vaccination phenomena[1]. More than 4,000 patients have been diagnosed with ASIA since the 2017 update[2].

To aid in diagnosis, we have outlined major criteria (exposure to an adjuvant prior to symptom onset such as silicone and vaccines, development of symptoms like joint pain and fever, improvement after adjuvant removal and typical biopsy of involved organs) and minor criteria (antibody production, and specific HLA). Patients must have, at least, 2 major criteria or 1 major and 2 minor criteria. Together these criteria provide a framework for understanding ASIA, but further validation is important to improve diagnostic accuracy[3].

Silva et al. reported a case of a 23-year-old patient, with a bilateral silicone breast implantation performed 3 years prior, who presented with a progressive breast erythema. The laboratory panel was negative except for the antinuclear antibody, which was positive with a 1:640 titre and a nuclear-speckled pattern. The patient was diagnosed with ASIA with a lupus-like manifestation. Cutaneous lesions were improved with hydroxychloroquine 400 mg daily without the need for surgical intervention[4]. Overall, there remains much uncertainty in regard to the association between breast implants and the risk of incident rheumatic diseases, but based on a small number of high-quality studies, an association between breast implants and a small increase in scleroderma or rheumatoid arthritis could not be excluded[5].

The improvement on steroids does not mean ASIA syndrome, but our patient had fatigue, irritability and arthralgia after the implant. The infectious and immunological assessments were negative. The biological inflammatory syndrome is not very serious. Thus, in front of the clinical and biological evolution after cosmetic surgery and the negative assessment. The improvement on steroids led us to think of ASIA syndrome. Faced with clinical and biological improvement, we decided to schedule the removal of the implants in the coming months with scheduled surgery. The Naranjo's score of our patient has 7 point which makes the link between the symptomatology and the implant probable[6].

CONCLUSION

It is important to consider ASIA in patients with unexplained systemic symptoms, especially after exposure to adjuvants such as silicone implants. However, due to the rarity of the condition and the lack of data available in the literature, further research is needed not only to refine the diagnosis but also guide treatment strategies.

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