

Complications of Use of Injected Liquid Silicone in Breast: A Case Report

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Abstract

Silicone is any chemical polymer, manufactured in the form of a fluid, resin or elastomer which has a chain formed of alternating silicon and oxygen atoms, in the same way as organic compounds. They are used as polishing, sealing and protective agents. They are also waterproofing, lubricants and in medicine are used as basic material of prostheses. However, it has been reported the application of liquid silicone in body areas for aesthetic improvement.

Keywords: Silicone; Breast; Breast cancer; Siliconomas; Inflammatory syndrome

Introduction

It's an inadequate and clandestine practice, carried out for many years. Many reports come from female victims and transsexuals. Initially used in pure form, it was added to other substances such as vegetable oils and minerals to reduce migration related to application of higher volumes [1,2].

These applications are made by non-medical personnel, out of a hospital environment and without appropriate techniques for injection and asepsis. Therefore, many complications are reported, such as localized inflammatory processes (abscesses and granulomas), formation of siliconomas until the migration of the material to other areas. There is a report of immediate pulmonary embolism after application of liquid silicone in the mammary region [1-3].

This practice determines long-term complications. The impossibility of removing all the injected material, as well as the necrotic, fibrotic and cicatricial tissues present makes difficult the treatment [1-3]. Late complications are associated with typical reactions to the foreign body, being encapsulated and, in the long term, wrapped in calcified fibrosis that acquires stone consistency and the fibrosis determined by the tissue reaction makes it difficult to visualize malignant lesions, delaying the diagnosis [1-4].

On the last decade, silicone has been included in the autoimmune/inflammatory syndrome induced by adjuvants (ASIA). The ASIA syndrome may appear as lupus, rheumatoid arthritis or, more rarely, as adult's still disease. They have a prior exposure to immune adjuvants and a several clinical criteria associated to chronic inflammation and autoimmune reactions. The symptoms in these cases include arthralgia, arthritis, myalgia, sleep disturbances, the appearance of autoantibodies, miscarriage, Raynaud's phenomenon, and involvement of autoimmune diseases (scleroderma and undifferentiated connective tissue diseases. Recently, a review of the literature included 4479 ASIA cases. The majority of severe ASIA cases were related to HPV vaccine, silicone, influenza vaccine and mineral oil injections and the interval from exposition to severe manifestation was from 2 days to 23 years [5-9]. Based on the above, the authors

report a case of application of liquid silicone to the breasts for esthetic effect and its repercussions for the clinical control of the patient.

Case Report

HBS, a 60-year-old female, sought consultation regarding gynecological control. She had no pain at all. The breast examination identified breasts with natural shape and volume, without ptosis or sagging. The palpation identified breasts of stone consistency, without local inflammatory process, but also without any mobility. When asked about the procedure performed, the patient reported injecting liquid silicone for several years, performed by a non-medical person. A mammography was performed, showing symmetrical breasts, with architectural distortion, hyper density and irregular material (Figure 1). As the patient was asymptomatic, after the medical orientations, she opted for the control with nuclear magnetic resonance and didn't remove the breast.

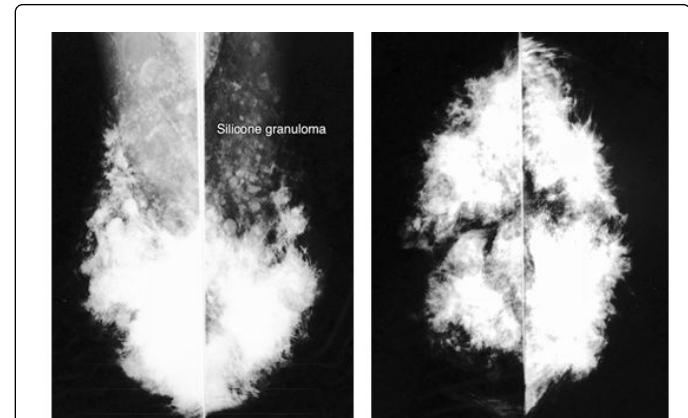


Figure 1 [A]

Figure 1 [B]

Figure 1: Mammographic image with granulomas by the injection of liquid silicone. Note architectural distortion, hyperdense and irregular material, dispersed diffusely in the mammary parenchyma, with well-defined and bilaterally dense nodules.

Discussion

Industrial silicone is used as a waterproofing and lubricant agent on the market. However, the use as body's aesthetic is inadequate and clandestine, being used, most of the time, for correcting defects, depressions or irregularities and also to increase body volumes, such as the breasts and buttocks [1,2].

There are several reports in the literature on the use of industrial silicone for aesthetics in various parts of the body and with many adverse results. Complications serious and also development of ASIA syndrome. Several complications were mentioned by silicone injection in the breasts, legs, buttocks determining serious ulcers [9-11].

In the literature, cases of infections, silicone migration, inflammatory process, ulcerations and the excision of large areas of tissues are common. However, there are completely asymptomatic patients after the procedure [1-3]. In these patients, the problem is associated with difficulty in breast control and screening for malignant breast diseases. There is still no protocol management for breast control with liquid silicone injection. Some authors have reported that magnetic resonance imaging may be useful as an additional screening tool to confirm the diagnosis and exclude the presence of malignancy in injected silicone breasts considering the limitation of mammography in these patients [4].

This case was complicated. Subcutaneous mastectomy would allow the excision of the affected breast area and the histopathological study, excluding cancer, but this treatment is not always accepted by the patient, especially in the asymptomatic woman. The loss of the breast determines important emotional disorders, especially for these patients, who often underwent the risks of a clandestine procedure aimed at aesthetics [4]. Another possibility is the breast reduction may be the alternative option for women with a history of liquid silicone injection that have no symptoms but desire to preserve their breasts and improve their aesthetics [10].

In this context, MRI (magnetic resonance imaging) may be an important tool in the control of these patients and subcutaneous mastectomy would be restricted to patients with local complications, with suspected malignant lesions or those with a desire to prevent these potential problems [4,11-13].

It was concluded that the use of industrial liquid silicone as a filling material and body contour modification should be absolutely counter-indicated as it may lead to serious complications. This use is

clandestine, made by non-medical personnel and should never be encouraged.

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