

# Removal of modeling substance in left buttock of a patient with ASIA syndrome. A case report

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## Case Report

### Plastic Surgery



**Objective:** To describe the case of a patient with modeling disease and overview the literature.

**Case description:** 62-year-old female patient with a history of injection with modeling substances 20 years ago presenting late onset reaction to these and ASIA syndrome, managed with surgical debridement, negative pressure system and skin graft placement.

**Conclusion:** Complications due to the use of biopolymers can be severe and their management must be multidisciplinary.

**Keywords:** modeling disease, biopolymers, skin grafting.

In recent years there has been an increase in the use of modeling substances to improve physical appearance under the premise that they are simple, painless and inexpensive methods, but without knowing the possible consequences and complications (1).

Biopolymers are defined as macromolecules of different origins, derived from petroleum, vegetable origin and many are of synthetic origin. In the latter case, most are silicone derivatives, and may include other materials such as methacrylate or collagen, among others (2).

When they come into contact with the receptor tissue, they can trigger an excessive local inflammatory reaction, proportional to the molecular weight of the infiltrated substance. In addition, there is the possibility that these substances may migrate away from the site of application, possibly involving vital organs and even causing death (4).

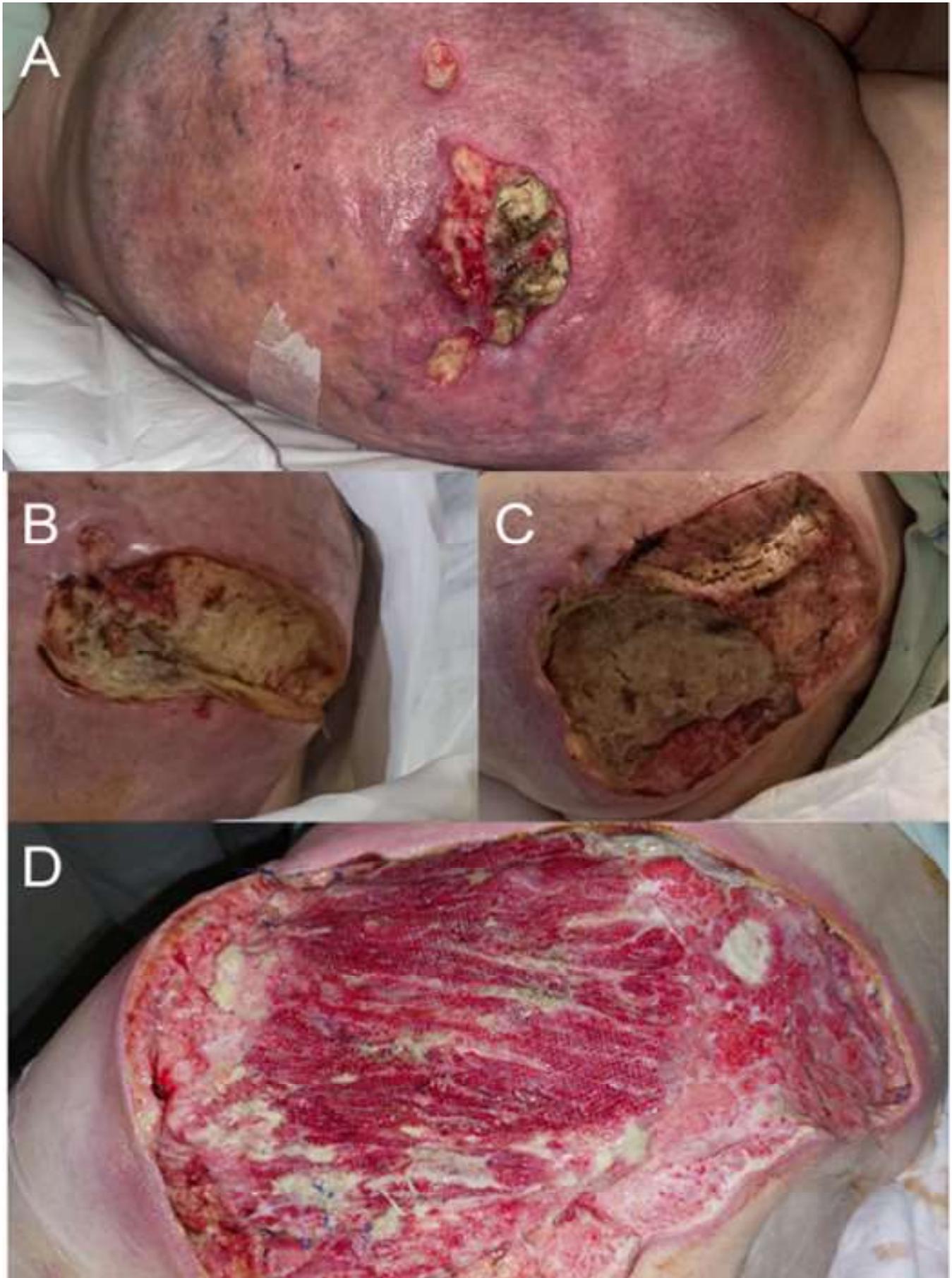
Tissue reaction to the infiltration of this type of products can occur acutely or even late, with cases of complications appearing up to 25 years later being described (3-5).

In this article we present a patient with a history of injection of modeling substances who developed a late tissue reaction to them, presenting ASIA syndrome.

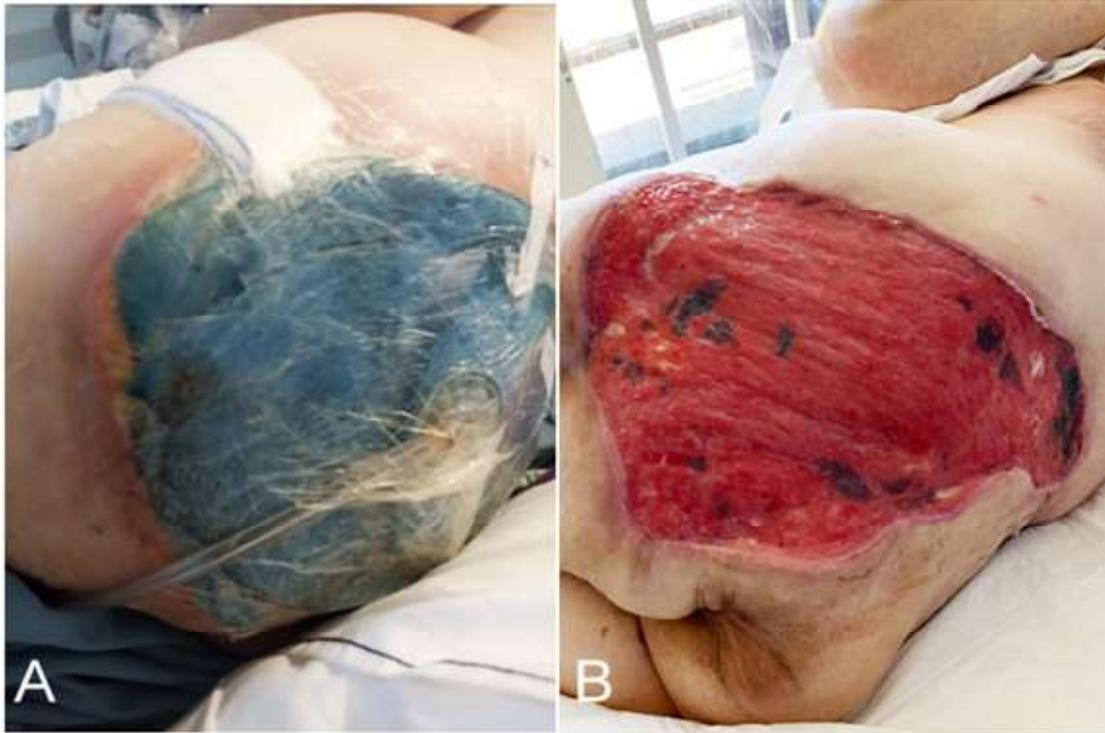
## Case report

62-year-old female with a history of injection of modeling substances in both buttocks 20 years ago, surgical cleaning and excision of the right buttock plus placement of skin graft 3 years ago, ASIA syndrome diagnosed 1 year ago in treatment with methotrexate 2.5 mg every 24 hours from Monday to Saturday, prednisone 2.5 mg every 24 hours, folic acid 4 mg Monday, Wednesday and Friday, who presented with an ulcer in the left buttock 10 centimeters in diameter with purulent drainage through the wound, with perilesional erythematous halo and induration of the entire buttock (Figure 1A).

During her hospital stay, 3 surgical debridement were performed in which all infected and devitalized tissue was excised (figure 1B and 1C), a tissue culture was taken and was positive for *Pseudomonas aeruginosa*, and she was managed with negative pressure therapy (figure 2A) and antibiotic therapy guided by antibiogram. After completing the antibiotic regimen and removal of the negative pressure system (figure 2B), a new culture was taken, which was still positive for *Pseudomonas aeruginosa*, the infectious disease department was consulted and concluded that the tissue was colonized by it, so a thin partial thickness skin graft taken from the ipsilateral posterior thigh was placed (figure 3). The patient presented good postoperative evolution (figure 3), so it was decided to discharge her.



**Figure 1.** A) Ulcer in left buttock showing infection and induration of the surrounding tissue. B) Left buttock after first surgical cleaning C) Left buttock after second surgical cleaning D) Left buttock after third surgical cleaning.

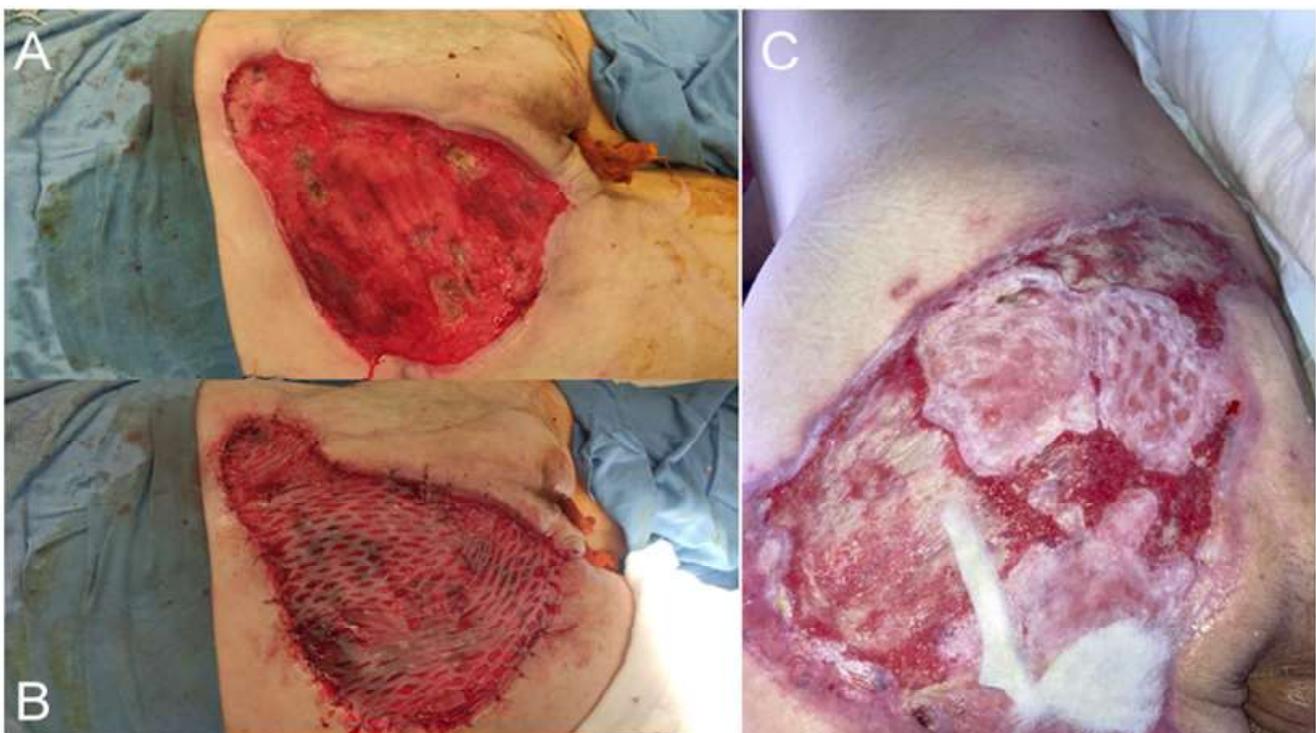


**Figure 2.** A) Placement of Negative Pressure System. B) Tissue after removal of Negative Pressure System.

**Discussion**

The areas of the body where modeling substances are most frequently infiltrated are the buttocks (8-72%) and breasts (12-16%) (6-8). This causes local complications such as ulcers, livedo reticularis, nodules, etc. The gluteal area is of specific interest because of the musculature of this region that controls hip movements and supports the back an

d iliotibial tract (9-10). Therefore, sitting will generate more pressure and worsen symptoms. In addition, this area suffers trauma when patients self-medicate with intramuscular medications. The migration of the foreign body to the lower back, inguinal region, perineum, lower limbs and endolymphatic tract is also well known (7,8 and 11).



**Figure 3.** A) Before and B) after skin graft placement. C) Progress prior to hospital discharge. Clean tissue without purulent discharge, in its middle portion there is a well adhered skin graft.

**ASIA Criteria****Major Criteria:**

- Exposure to an external stimuli (Infection, vaccine, silicone, adjuvant) prior to clinical manifestations.
- The appearance of 'typical' clinical manifestations:
  - Myalgia, Myositis or muscle weakness
  - Arthralgia and/or arthritis
  - Chronic fatigue, un-refreshing sleep or sleep disturbances
  - Neurological manifestations (especially associated with demyelination)
  - Cognitive impairment, memory loss - Pyrexia, dry mouth
- Removal of inciting agent induces improvement
- Typical biopsy of involved organs

**Minor Criteria:**

- The appearance of autoantibodies or antibodies directed at the suspected adjuvant
- Other clinical manifestations (i.e. irritable bowel syn.)
- Specific HLA (i.e. HLA DRB1, HLA DQB1)
- Evolvement of an autoimmune disease (i.e. MS, SSc)

**Table 1.** ASIA criteria.

At the systemic level, the patient may develop polyarthralgia, myalgias, and cognitive and sleep disorders. These manifestations have been observed in 60% of patients presenting with adjuvant-induced autoimmune-inflammatory syndrome (ASIA syndrome) (12, 13). This condition consists of an antigen-specific response to an adjuvant substance due to its ability to produce a broad activation of various immune cells and inflammatory pathways (12, 14).

There is limited information about treatment. In some cases, it is necessary to remove the unknown injected substance because of the risk of infection, scarring, severe granulomatous fibrosis or severe inflammatory reaction. In addition, there is a lack of information about the criteria for removal of the material based on the ASIA criteria (15) (Table 1).

In this case the patient was already diagnosed with ASIA Syndrome and had been treated with immunosuppressants for a year and with the history of suffering from the same pathology in the contralateral buttock. This condition must be managed and treated with a multidisciplinary approach due to its complexity.

**Conclusion**

The infiltration of modeling substances must be handled by a specialist and preferably only use products approved by the corresponding health institutions, since the infiltration of products such as biopolymers can cause harmful effects to health in the short, medium or long term and affect not only the physical appearance of the patient, but also trigger an immune response to a foreign body.

The complications of these procedures must be seen in a multidisciplinary way, with a team that includes not only a medical team but also psychology, and the patient must be seen as a complex being, in which the psychosocial aspect is also affected.

**Conflicts of interest**

No conflicts of interests.

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