



# Back-to-front flipping of an anatomical implant 31 months after augmentation mammoplasty: a case report

*Rotação de trás para frente de implante anatômico após 31 meses da mamoplastia de aumento: relato de caso*

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### ■ ABSTRACT

**Introduction:** Augmentation mammoplasty is one of the most commonly performed surgical procedures by plastic surgeons. Back-to-front flipping of an implant after augmentation mammoplasty is a rare complication, occurring in 0–5% of cases. **Case report:** The authors report a patient who presented with back-to-front flipping of an anatomical implant 31 months after augmentation mammoplasty.

**Keywords:** Breast implant; Flipping; Mammoplasty.

### ■ RESUMO

**Introdução:** A mamoplastia de aumento está entre os procedimentos mais realizados por cirurgiões plásticos. A rotação de trás para frente de implante após mamoplastia de aumento é uma complicação rara, que acontece entre 0 e 5% dos casos. **Relato de caso:** Os autores relatam um caso de uma paciente que apresentou rotação de trás para frente de implante anatômico após 31 meses da mamoplastia de aumento.

**Descritores:** Implante Mamário; Rotação; Mamoplastia.

## INTRODUCTION

Augmentation mammoplasty was one of the most commonly performed surgical procedures by Brazilian plastic surgeons between September 2007 and August 2008<sup>1</sup>. The American Society of Plastic Surgery reports an increase of 476% in mammoplasty augmentation cases between 1992 and 2000<sup>2</sup>.

A prosthesis (breast implant silicone) can flip in three axes as follows, at a prevalence of up to 14%: flip as a pancake (x), bend like a door (y), and flip like a wheel (z), which is not perceived in round prostheses<sup>3</sup>.

Back-to-front flipping (as a pancake) is rare, reportedly accounting for 0–5%<sup>4–15</sup> of cases. Diagnosis is clinically performed through physical examination of the patient and observation of possible changes in breast shape, without the need for diagnostic examinations<sup>16</sup>.

## CASE REPORT

L.M. was a 29-year-old Brazilian who was employed in the area of human resources in London. She underwent augmentation mammoplasty with a retroglanular implant via the axillary approach on May 29, 2007. Anatomical silicone im-

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plants were used (high profile with microtexture; REF AX260, Perthese), which had the following measurements: volume, 260mL; width, 11.9cm; height, 12.5cm; and depth, 4.8cm.

The patient underwent the surgical procedure, performed in a day-hospital regime, without complications. A mold was used for the production of the implant.

The patient got married, had a son, and breastfed for 9 months. After 31 postoperative months without complications, on April 12, 2010, the patient contacted our service to report changes in the shape of the implant.

The implant was returned to its proper position through external manipulation. The patient was provided with guidance about the increased possibility of a second flipping, and she opted to not undergo a second surgical procedure.



**Figure 1.** Frontal: preoperative.



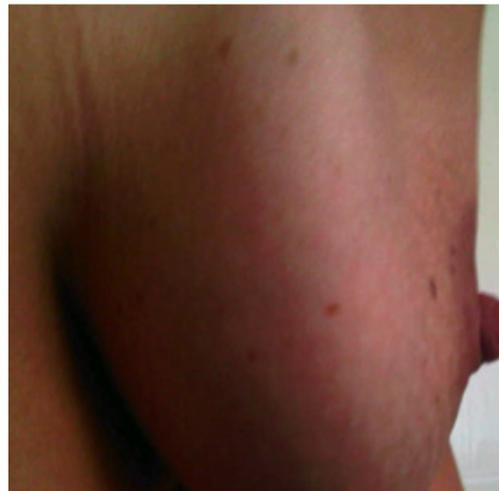
**Figure 2.** Frontal: at 31 postoperative months (after breastfeeding).



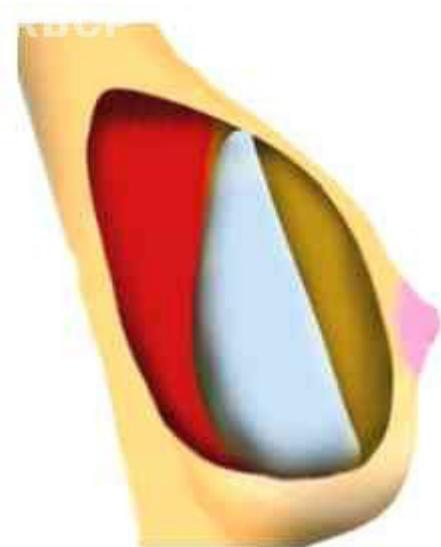
**Figure 3.** At 31 postoperative months, changes were observed in the shape of breast D, with nipple height asymmetries and anterior face alteration.



**Figure 4.** Details of breast D, with the patient leaning forward; a flattened aspect can be observed.



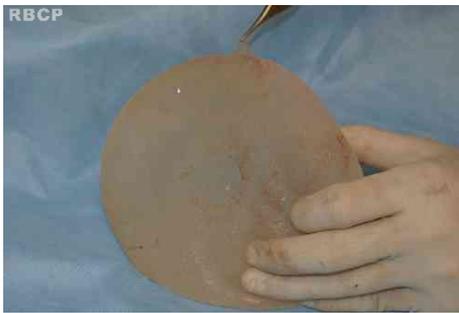
**Figure 5.** Profile with the anterior face alteration of breast D.



**Figure 6.** Schematic diagram of the back-to-front flipping of the anatomical implant, in a profile view.



**Figure 7.** Capsule with more than one layer surrounding the implant.



**Figure 8.** Example of a prosthesis with two capsules. The image depicts a capsule surrounding the implant and smoothing of the microtexture.

## DISCUSSION

Although augmentation mammoplasty has been the most commonly performed surgical procedure by Brazilian plastic surgeons between September 2007 and August 2008<sup>1</sup>, in our service, the cases of primary augmentation mammoplasty with implants accounted for only 5.53% of all surgical cases (n = 300). This bias may be justified by the surgical concept acquired in our service in the 1970s, when the need for surgical revision due to the poor quality of implants reached 20%. Since then, augmentation mammoplasty with breast implant began to be considered a surgery that can be performed again.

The advancements in implant design over the last 40 years focused on silicone implants with the property to not leak even if the cover of the prosthesis is perforated. When previous implant designs were used, the implant covers were observed to be not completely waterproof, thus leading to the formation of a calcified capsule. However, even today, manufacturers claim that the prosthetic cover has 5 or more layers. However, our observational experience from January 1970 to December 2010 showed that prosthetic covers are not entirely waterproof. When performing a test by pinching and twisting the prosthetic membrane, air microbubble formation was observed, which disappeared when the prosthesis was

undisturbed. Moreover, all the prostheses used underwent a change in color after withdrawal and contact with air.

For such prostheses, fasteners proved to be inefficient. Rendering a wrinkled surface with pores (texture) was also ineffective, as the body recovered the texture, smoothing it. In these cases, two capsules or a capsule with several layers, instead of a single capsule, surrounded the implant. In these capsules, fluid can accumulate (in the laminar liquid layer) and possibly trigger the implant rotation<sup>3,4</sup>.

The prevalence of back-to-front flipping of an implant after augmentation mammoplasty between January 1970 and December 2010 was 0.33% per patient and 0.16% per implant in our service, indexes consistent with data already reported in the literature<sup>3-17</sup>.

Several factors such as infection, hematoma, capsular contracture, dissection, inexperience of the surgeon, physical activity, and external manipulation of the implant may contribute to the flipping of the prosthesis<sup>3,16,17</sup>. Moreover, as the rotation in the z-axis could not be observed in round prostheses, the prevalence of flipping may be higher than reported.

In our case, the implant was repositioned through external manipulation only. According to Schots et al., in 25% of cases, the implants could be returned to the normal position without manipulation; in 17% of the cases, external manipulation was necessary; and in 12% of cases, a new surgical procedure was required<sup>17</sup>. Although advised on the increased chance of a second flipping, the patient opted not to undergo a new surgical procedure. Another interesting fact is the absence of reports referring to low- or moderate-profile breast implant flipping, regardless of the texture, although the dimensions of these implants are similar to those with high and super-high profiles<sup>16</sup>.

## CONCLUSION

Despite the advances in breast implant technology, we believe that breast implant designs are evolving. Therefore, research will continue.

The prevalence of back-to-front flipping of an implant after augmentation mammoplasty in our service is consistent with data reported in the literature.

Although several potential factors might have affected the mobility of the implant in the present case, the clear cause of the problem was not determined. Therefore, further studies should be performed.

Not all cases of implant flipping need surgical revision. Agreement with the patient is necessary.

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