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Factors associated to breast implants and breastfeeding*

Fatores associados à mamoplastia de aumento e o aleitamento materno

Factores asociados a la mamoplastia de aumento y la lactancia materna

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ABSTRACT

Objective: To analyze the association between the surgical characteristics of breast implants, time elapsed since surgery, access route, implant placement and implanted volume and variables related to breastfeeding, type, first 'milk let-down', breast engorgement, pain, lesion, milk production and use of galactagogues. **Method:** A prospective cohort carried out during the hospital stay (12 to 72 hours after delivery), home care (5th to 7th day after delivery) and telephone contact (between the 30th and 32nd day postpartum) of 115 postpartum women with breast implants between 2015 and 2017. **Results:** The first evaluation identified more frequent use of oral galactagogues (p=0.029) by puerperal women with prepectoral implants, and of oxytocin spray by those with implants up to 270 ml (p=0.040). The second evaluation showed a higher pain score among those with prepectoral implants (p=0.046). Around the 30th day postpartum, the presence of nipple lesion (p=0.021), pain (p=0.025) and a higher pain score (p=0.039) was more frequent among those with mammoplasty performed less than 10 years ago. **Conclusion:** The presence of pain and a higher pain score, the occurrence of lesion and the use of oral and nasal galactagogues were associated with implant placement, implant size and time elapsed since surgery.

DESCRIPTORS

Breast Feeding; Mammaplasty; Breast Implantation; Obstetric Nursing.

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INTRODUCTION

Exclusive breastfeeding (EBF) for 6 months, continued breastfeeding and the introduction of appropriate complementary food have numerous benefits for the health and survival of children, in addition to playing an important role in women's and in society health[1].

Despite all the available evidence on the importance of this practice, Brazil is still far from complying with the recommendation of exclusive breastfeeding up to 6 months of life, as recommended by the World Health Organization (WHO)[1]. Causes associated with early breastfeeding termination have been frequently described in scientific literature. Breast surgeries have been listed as one of the causes of factors associated with milk production incapacity, as the surgery can alter the integrity and functioning condition of the breast depending on the surgical technique used, making it difficult or even preventing breastfeeding[2-3].

With advancing technology involved in manufacturing breast implants as well as in the surgical techniques, this procedure has been growing in Brazil and around the world[2]. The latest study by the *International Society of Aesthetic Plastic Surgery* (ISAPS) carried out in 2016 shows that this cosmetic surgery is the most frequent in Brazil, occupying second place in the world ranking only behind the United States[4].

The search for the ideal body generally occurs during the reproductive period, between 19 and 34 years of age, when most women do not care about their future ability to breastfeed, often because they still do not plan or are not experiencing motherhood[5].

In this regard, it is essential that women, especially those within the reproductive age who wish to become pregnant and breastfeed, are fully informed of the benefits of breastfeeding, as well as on the possible complications resulting from mammoplasty surgery for future lactation[6].

On the other hand, health professionals must understand the nature of the surgery and the probable results related to breastfeeding. The woman should be closely monitored by a trained professional soon after delivery in order to evaluate the signs of adequate milk production and infant growth, seeking the provision of the necessary care in each case[7].

Studies published over the last decades up to the present have been analyzed in order to identify the repercussions of breast implants in breastfeeding based on a scientific approach. In addition to the scarcity, it is observed that the majority of articles refer to old studies, and few of them correlate surgical characteristics with the aspects associated with breastfeeding. In addition, they also present low levels of evidence, no precise definitions regarding the outcome (EBF), and are retrospective studies with small populations, thus hindering data generalization and comparability.

Based on the gaps identified and the importance of guiding women and professional qualification, the present study sought to analyze the association between the surgical characteristics of breast augmentation such as the time elapsed since surgery, access route, implant placement and implant volume, and the variables related to breastfeeding such as type, occurrence of 'milk let-down', breast engorgement, pain at breastfeeding, nipple lesion, milk production and use of galactagogues.

METHOD

This study is a part from a larger Research Project entitled 'The Impact of Reduction Mammoplasty and Increasing Breastfeeding Performance' (*O Impacto da Mamoplastia Redutora e de Aumento na Performance da Amamentação*), performed from a prospective cohort study in a private hospital located in the city of São Paulo with 240 women; 125 in the group without surgery, and 115 in the group with breast augmentation. For the proposed objective, only primiparous women with breast implants between 12 and 72 hours postpartum who had not experienced 'milk let-down', who were breastfeeding, and who were aware of the characteristics of the surgical procedure analyzed were selected.

The exclusion criteria were women with any previous pathology and/or those associated with pregnancy; whose current gestation was characterized as multiple; with nipple malformation; with a diagnosis of tuberous breasts; who had undergone breast implant replacement or reoperation or had undergone any other breast surgery other than implant mammoplasty; who underwent surgery on a single breast; who presented complications related to breast augmentation (infectious processes, bruises, seromas, implant rupture, capsular contracture, among others); women whose newborns had been admitted to the Intensive Care Unit and/or were premature and/or weigh less than 2,500 grams, those who had had any pathology at birth and/or orofacial malformation; women who declared themselves to be non-literate and/or those with cognitive deficits, regardless of the schooling level, unable to read and understand the clear and Informed Consent Term; those with hearing and/or visual impairments; or those disoriented as to time, space or people.

In order to respond to the research objective, the primary outcome variable established was the type of breastfeeding practiced, while the variables related to breastfeeding and the surgical characteristics of breast augmentation were established as secondary outcomes.

Three instruments were specifically developed for this study, and all three were previously tested based on a pilot project. The first instrument was applied in the first evaluation during hospital care which occurred between 12 and 72 hours after delivery and included: recording of socio-demographic data (maternal age, marital status, schooling and occupation); data regarding birth and delivery (type of delivery, gestational age, birth weight of the child and gender of the child); breastfeeding (type of breastfeeding, period of 'milk let-down', presence of breast engorgement, pain while breastfeeding and nipple lesion, milk production and use of galactagogues); physical breast examination and referring to the time elapsed since surgery (categorized as up to 10 years and more than 10 years); access route for the implantation,

obtained through an evaluation of the scar and categorized as periareolar, inframammary and others (axillary and umbilical); implant placement (categorized as prepectoral or retro-pectoral); and volume implanted in each breast (categorized as less than or equal to 270 ml and greater than 270 ml).

The second instrument was used in the second evaluation during home consultation, performed between the 5th and the 7th day after delivery. The data included were: physical breast examination, data related to breastfeeding, an evaluation of milk production and observation of a breastfeeding session.

For evaluating the milk production, an electric pump was simultaneously used for 10 minutes[8], with a suction pressure vacuum of 190.7±8.8 millimeters of mercury (mmHg)[9] and a rate of 50 to 60 movements per minute[2], calibrated using a specific instrument and trained professional. No breast manipulations or massages were carried out prior to the extraction, and an areolar flexibility test was performed. The volume of pumped milk was evaluated in milliliters based on the content aspiration using a disposable 20 ml syringe.

The third instrument was applied in the 3rd evaluation through telephone contact between the 30th and 32nd day postpartum, and it consisted of a form that included data related to breastfeeding and information on breast conditions (lesions and pain).

In the three instruments, the pain score during breastfeeding was evaluated by the Verbal Number Scale graded from 0 to 10, in which 0 means absence of pain, and 10 the worst pain ever felt[10]. The pain intensity was then classified as an absolute number.

The data collection began in January 2015, after approval by the Research Ethics Committee of the Universidade Federal de São Paulo – *UNIFESP*, of the Ethics Committee of the Albert Einstein Israelita Hospital – *HIAE*, under number 855.285/2014, and upon the acceptance and signature of the clear and Informed Consent Form (ICF) by the study subjects. The collection was finalized in April 2017.

The data were collected in three stages by the researcher and by a team of properly trained and qualified nurses to perform the present collection who had experience with the basic management of breastfeeding. The first stage occurred in the hospital environment, between 12 and 72 hours after delivery. A survey of hospitalized postpartum women was performed daily, and those that met the inclusion and exclusion criteria were selected and included in the study according to the information described in their records. These women were subsequently interviewed in their respective rooms, with the purpose of checking the data contained in the medical records, as well as to confirm the presence or absence of breast implants. Based on this information, the order for the women for beginning the data collection was done at random by a draw. After this process, the puerperal women were again approached for presenting the study and were invited to participate. Upon acceptance, the women were included after signing the ICF.

In the second stage, an evaluation of the women and newborns was carried out between the 5th and the 7th day postpartum through a home visit at a previously scheduled time and close to feeding time. In the third stage, the data was collected through telephone contact between the 30th and 32nd day after birth.

The analyzed periods were established for evaluation of the variables that directly interfere in the breastfeeding process as the physiological changes in lactation occur, contemplating its initial phase (12 to 72 hours after delivery), the 'milk let-down' period (5th to 7th day after delivery) and the establishment of this practice (30th to 32nd day postpartum).

There were some losses during the follow-up in the evaluation between the 5th and the 7th day after delivery; 19 puerperal women refused the home visit, and 13 presented nipple lesion and/or pain during milk extraction with the use of the electric pump and were excluded, totaling 83 women, while 88 women responded to the telephone contact at 30 days postpartum.

The collected data were stored in an Excel spreadsheet, and the considered significance level was 5%. Mean, standard deviation, median, minimum and maximum were used for the quantitative data, and they were analyzed using the Student's t and Mann-Whitney tests when associated with dichotomous categorical data. The association of categorical data was analyzed using Fisher's Exact Test.

The guidelines and norms of Resolution No. 466/2012 of the National Health Council were considered in developing the present study.

RESULTS

When analyzing the sociodemographic profile of women and the labor and delivery characteristics, we observed that the mean age of participants was 33 years, 99.2% of them had a partner, 99.1% reached the Higher Education level (incomplete/complete) and 83.6% were employed in a high education profession at the data collection time. Regarding the characteristics of labor and delivery, 73.6% had cesarean delivery, the mean gestational age was 39 weeks, birth weight was 3,286.2 ± 339.1 g, and male infants were more frequent (53.9%).

Regarding the surgical characteristics, 74.8% of the 115 women studied had undergone the surgery up to 10 years ago, 88.7% of them had an inframammary incision, and the mean implanted volume was 267 ml (267±48.4), in which the maximum was of 400 ml and the minimum was 100 ml, while 52.1% reported that the implant was inserted in the prepectoral space.

The implanted volume variable was dichotomized for analysis into less than 270 ml and higher or equal to 270 ml, according to the average found.

Table 1 shows the type of breastfeeding practiced according to the surgical characteristics for the three moments evaluated.

Table 1 – Information related to the type of breastfeeding practiced at the three evaluated moments, according to surgical characteristics – São Paulo, SP, Brazil, 2015-2017.

GROUPS	n	12 to 72 hours after delivery Type of breastfeeding (%)			n	5th to 7th day after delivery Type of breastfeeding (%)			n	30th to 32nd day after delivery Type of breastfeeding (%)		
		Exclusive	Not exclusive	P-value		Exclusive	Not exclusive	P-value		Exclusive	Not exclusive	P-value
Time elapsed since surgery												
≤10 years	86	93.0	7.0	0.269	62	77.4	22.6	0.999	66	59.0	41.0	0.999
>10 years	29	86.2	13.8		21	81.0	19.0		22	59.1	40.9	
Access route												
Periareolar	13	100.0	0.0	0.591	8	100.0	0.0	0.193	10	60.0	40.0	0.999
Inframammary	90	92.2	7.8		65	77.0	23.0		68	60.3	39.7	
Implant placement												
Prepectoral	60	96.7	3.3	0.076	43	81.4	18.6	0.418	47	55.3	44.7	0.658
Retro-pectoral	50	86.0	14.0		35	71.4	28.6		36	61.1	38.9	
Implanted volume												
≤270mL	48	93.7	6.3	0.717	37	83.8	16.2	0.254	39	61.5	38.5	0.482
>270mL	52	90.4	9.6		33	69.7	30.3		35	51.4	48.6	

Fisher's Exact Test.

Data from Table 2 shows the results corresponding to the periods of 'milk let-down', breast engorgement and milk production, which were evaluated between the 5th and 7th day postpartum, which showed no relationship with the analyzed surgical characteristics.

Table 2 – Information related to the period of occurrence of the 'milk let-down', breast engorgement and milk production according to surgical characteristics – São Paulo, SP, Brazil, 2015-2017.

Population analyzed	n	Period of occurrence of the 'milk let-down' (%)			Breast engorgement (%)			Milk production (Mean ± SD*)			
		Between the 2nd/3rd dpp	After the 4th dpp	P-value	Yes	No	P-value	Right breast	P-value	Left breast	P-value
Time elapsed since surgery											
≤10 years	62	54.9	45.1	0.209	27.4	72.6	0.276	27.4±24.0	0.375	28.8±23.8	0.741
>10 years	21	71.4	28.6		42.9	57.1		20.1±12.6		28.1±19.4	
Access route											
Periareolar	8	25.0	75.0	0.065	37.5	62.5	0.682	32.6±41.1	0.979	31.7±34.6	0.999
Inframammary	65	61.5	38.5		27.7	72.3		24.3±19.8		27.4±22.5	
Implant placement											
Prepectoral	43	65.2	34.8	0.253	32.6	67.4	0.999	26±21	0.429	29.9±23.7	0.487
Retro-pectoral	35	51.4	48.6		31.4	68.6		24.2±24.2		26.4±22.9	
Implanted volume											
≤270mL	37	67.6	32.4	0.224	35.1	64.9	0.434	28.2±25.7	0.194	31.5±26.5	0.307
>270mL	33	51.5	48.5		24.3	75.7		22.1±19.1		23.3±17.4	

Fisher's Exact Test. *Mann-Whitney. SD=Standard deviation. dpp= days postpartum.

Regarding the use of oxytocin spray, the results showed that this medication was more frequently used between the 5th and 7th day postpartum by the group of women with smaller implants when compared to those with larger implants, and this difference was significant (p=0.040). The use of oral galactagogues in the first evaluation was more frequent among women with prepectoral implants (p=0.029), as shown in Table 3.

Table 3 – Information regarding the use of oxytocin spray and oral galactagogues according to surgical characteristics – São Paulo, SP, Brazil, 2015-2017.

Population analyzed	n	12 to 72 hours after delivery			n	5th to 7th day after delivery			n	30th to 32nd day after delivery		
		Yes	No	P-value		Yes	No	P-value		Yes	No	P-value
USE OF OXYTOCIN SPRAY (%)												
Time elapsed since surgery												
≤10 years	86	28	72	0.811	62	30.7	69.3	0.166	66	3	97	0.097
>10 years	29	24.1	75.9		21	14.3	85.7		22	13.7	86.3	
Access route												
Periareolar	13	38.5	61.5	0.296	8	37.5	62.5	0.378	10	10	90	0.429
Inframammary	90	22.2	77.8		65	21.5	78.5		68	4.4	95.6	
Implant placement												
Prepectoral	60	26.7	73.3	0.999	43	20.1	79	0.311	47	2.1	97.9	0.576
Retro-pectoral	50	28	72		35	31.4	68.6		36	5.6	94.4	
Implanted volume												
≤270mL	48	25	75	0.656	37	19	81	0.04	39	7.7	92.3	0.617
>270mL	52	30.7	69.3		33	42.4	57.6		35	2.9	97.1	
USE OF ORAL GALACTAGOGUES (%)												
Time elapsed since surgery												
≤10 years	86	10.5	89.5	0.448	62	19.3	80.7	0.168	66	40.9	59.1	0.804
>10 years	29	3.4	96.6		21	4.8	95.2		22	36.4	63.6	
Access route												
Periareolar	13	0	100	0.591	8	0	100	0.586	10	20	80	0.307
Inframammary	90	8.9	91.1		65	12.3	87.7		68	39.7	60.3	
Implant placement												
Prepectoral	60	8.3	91.7	0.999	43	7	93	0.029	47	34	66	0.37
Retro-pectoral	50	10	90		35	25.7	74.3		36	44.4	55.6	
Implanted volume												
≤270mL	48	10.4	89.6	0.734	37	16.2	83.8	0.76	39	41	59	0.999
>270mL	52	7.7	92.3		33	21.2	78.8		35	42.9	57.1	

Fisher's Exact Test.

Around 30 days postpartum, the presence of pain (p=0.025) and nipple lesion (p=0.021) was more observed in women with mammoplasty performed less than 10 years ago, as shown in Table 4.

Table 4 – Information related to the presence of breast pain and nipple lesion according to surgical characteristics – São Paulo, SP, Brazil, 2015-2017.

Population analyzed	n	12 to 72 hours after delivery			n	5th to 7th day after delivery			n	30th to 32nd day after delivery		
		Yes	No	P-value		Yes	No	P-value		Yes	No	P-value
USE OF OXYTOCIN SPRAY (%)												
Time elapsed since surgery												
≤10 years	86	39.5	60.5	0.508	62	66.1	33.9	0.999	66	19.7	80.3	0.025
>10 years	29	31.0	69.0		21	66.7	33.3		22	45.4	54.6	
Access route												
Periareolar	13	53.9	46.1	0.232	8	75.0	25.0	0.999	10	30.0	70.0	0.689
Inframammary	90	35.6	64.4		65	67.7	32.3		68	22.1	77.9	
Implant placement												
Prepectoral	60	35.0	65.0	0.843	43	72.1	27.9	0.232	47	29.8	70.2	0.319
Retro-pectoral	50	38.0	62.0		35	57.1	42.9		36	19.4	80.6	
Implanted volume												
≤270mL	48	33.3	66.7	0.308	37	73.0	27.0	0.315	39	23.1	76.9	0.445
>270mL	52	44.3	55.7		33	60.6	39.4		35	31.4	68.6	
NIPPLE LESION (%)												
Time elapsed since surgery												
≤10 years	86	46.5	53.5	0.286	62	83.9	16.1	0.514	66	18.1	81.9	0.021
>10 years	29	34.5	65.5		21	76.2	23.8		22	45.4	54.6	
Access route												
Periareolar	13	69.2	30.8	0.071	8	75.0	25.0	0.611	10	30.0	70.0	0.682
Inframammary	90	40.0	60.0		65	84.6	15.4		68	20.6	79.4	
Implant placement												
Prepectoral	60	41.7	58.3	0.848	43	83.7	16.3	0.567	47	27.6	72.4	0.445
Retro-pectoral	50	44.0	56.0		35	77.1	22.9		36	19.4	80.6	
Implanted volume												
≤270mL	48	43.7	56.3	0.554	37	83.8	16.2	0.760	39	20.5	79.5	0.302
>270mL	52	50.0	50.0		33	78.8	21.2		35	31.4	68.6	

Fisher's Exact Test.

With regard to the pain score between the 5th and 7th day after delivery, a higher pain score was identified among women with prepectoral implants (p=0.046), while the highest score (p=0.039) around the 30th day was observed among postpartum women who underwent surgery less than 10 years ago.

Table 5 – Information related to pain during breastfeeding on right and left breasts, according to surgical characteristics – São Paulo, SP, Brazil, 2015-2017.

Population analyzed	n	12 to 72 hours after delivery Pain scores during breastfeeding (Mean ± SD*)				n	5th to 7th day after delivery Pain scores during breastfeeding (Mean ± SD*)				n	30th to 32nd day after delivery Pain scores during breastfeeding (Mean ± SD*)			
		Right breast	P-value	Left	P-Valor		Right breast	P-value	Left	P-Valor		Right breast	P-value	Left	P-value
Time elapsed since surgery															
≤10 years	86	1.8±2.8	0.927	2.1±3.0	0.302	62	4.2±3.5	0.460	4.1±3.5	0.810	66	0.6±1.8	0.039	0.8±2.1	0.55
>10 years	29	1.9±3.1		1.6±3.0		21	4.8±3.8		4.3±3.7		22	1.1±1.8		1.5±2.1	
Access route															
Periareolar	13	2.3±3.2	0.629	3.0±3.3	0.143	8	6.2±4.1	0.131	6.1±4.0	0.120	10	1.5±2.7	0.140	1.3±3.2	0.992
Inframammary	90	1.8±2.9		1.8±3.0		65	4.4±3.5		4.0±3.4		68	0.4±1.3		1.0±2.0	
Implant placement															
Prepectoral	60	1.5±2.6	0.416	1.8±2.7	0.786	43	5.1±3.5	0.058	4.8±3.6	0.046	47	0.7±1.5	0.869	1.0±4.9	0.347
Retro-pectoral	50	2.1±3.2		2.0±3.2		35	3.6±3.4		3.3±3.2		36	0.8±2.2		0.8±2.4	
Implanted volume															
≤270mL	48	1.2±2.2	0.107	1.4±2.4	0.052	37	4.9±3.2	0.490	4.1±3.1	0.573	39	0.6±1.6	0.663	0.9±2.1	0.507
>270mL	52	2.4±3.3		2.6±3.3		33	4.7±3.9		4.4±3.9		35	1.0±2.2		2.2±2.4	

*Mann-Whitney. SD=Standard deviation.

DISCUSSION

No significant differences were observed in the three evaluations between the analyzed groups when analyzing the EBF rate and its relationship with the time elapsed since surgery, access route, implant placement and implanted volume. In comparing the prevalence of EBF in the three evaluated moments, a decrease in this practice was observed in relation to the four surgical characteristics evaluated, demonstrating that the higher the postpartum period, the greater the risk of weaning, which corroborates the rates found in the general population, as evidenced in the last Study of Breastfeeding Prevalence in the Brazilian Capitals and Federal District, published in 2009[11].

Regarding the time elapsed since surgery, only one recent retrospective study related this variable to EBF rates, and unlike the present study it identified that women with augmentation surgery performed up to two years prior to delivery had similar frequencies of EBF to the frequencies found in women who had performed the procedure a longer time prior[12].

With regard to the access route, only two studies conducted this description[13-14] according to the literature review; however, only one of them evaluated the correlation between the EBF rate and the type of incision[14].

The first was conducted in 1993, and refers to a retrospective study of 26 women who underwent breast augmentation and reported that only a few women stopped breastfeeding at 3 months, and the vast majority continued to breastfeed for 6 months or longer. The authors also identified that 11 of them presented inframammary incision, seven presented periareolar incision, and one axillary incision[13], although the descriptions of the incision type did not add up to the number of women studied (n=26), meaning that this variable was not characterized for seven women. Moreover, there is no information on the number of women with each type of incision and how long they exclusively breastfed for.

The second reference is a retrospective study conducted at the Universidad de Puerto Rico in 2010 with 105 women with breast implant surgery; 49 with periareolar incision and 56 with inframammary incision. The study identified that the success rate of exclusive breastfeeding decreased approximately by 25%, and the need to supplement with artificial milk increased by 19%, regardless of the type of incision[14]. These results corroborate those found in the present study, since it was observed that women with inframammary incisions presented higher EBF rates at all analyzed moments even though it was not evidenced by the statistical test.

In this sense, women with periareolar incisions are five times more likely to have insufficient milk production due to damage to the ducts, glandular tissue or innervation of the breast, which results in partial or total loss of the sucking reflex, reduced milk production, and consequently early weaning[15].

No studies that investigated implant placement and implant volume were found in the analyzed literature. Although the results showed no significant difference, women with prepectoral implants had a higher EBF rate up to 5 to 7 days after delivery; a fact that can be justified by the compression of the mammary gland,

which is especially stiffened during 'milk let-down' with the alveoli and ducts dilated which can facilitate milk ejection, thereby promoting the sensation of adequate milk production. However, after stage II of lactogenesis, the production regulation becomes autocrine and with regular emptying of the mammary gland, and there is reduced interalveolar pressures[16], which may disclose reduced lactation in women with prepectoral implants and consequently to a need for complementation with artificial milk/formula.

It is important to note that the duration of EBF may not only be associated with physiological factors related to breast implants. In general, women who choose to perform this procedure may have different expectations and beliefs from those who did not. They may have lower self-esteem and self-confidence, not feeling able to meet the child's needs. On the other hand, they may be less perseverant when faced with obstacles and difficulties inherent in the breastfeeding process[17], which also favors early weaning.

Regarding the occurrence of breast engorgement, it was observed that the percentage found in the analyzed groups is consistent with that described in the general literature, which shows an incidence that varies widely from 28.3% [18] to 89%[19]. However, the studies do not report an association between breast engorgement and breast implants, they only relate that cases with periareolar incisions could lead to a reduction or incapacity of milk drainage due to the section of the ducts and the presence of the implant, especially the prepectoral ones, which compress the mammary gland[20], thus worsening alveolar distention and even increasing obstruction, which was not evidenced in the present study.

The analyzed literature and the results of the present research regarding milk production are not consensual. An American study used the Lactina electric pump with simultaneous extraction to evaluate milk production of two puerperal women with breast implants with periareolar incision from the 4th day after delivery, demonstrating a significant reduction in milk production over time in both cases; however, they were women with premature births (one of them triplets) and with hospitalization of the newborns in the intensive care unit, which may have influenced the results encountered[5]. Other studies used different ways of measuring production such as manual milking[21], weight gain[15,22] and the report of women[23-24], concluding that breast augmentation surgeries negatively interfere with milk production[15,22], especially those with periareolar incision[15,22]. Only one study stated that the surgical procedure did not affect the ability to produce milk[24]. In addition to differences regarding the population, the extraction type used and non-standardization of using the electric pump in relation to the extraction frequency, duration, rhythm and suction pressure may justify the disagreement of the presented data.

No studies correlating surgical characteristics with the use of galactagogues were found in the studied literature. The results of the present study have highlighted a more frequent use of oxytocin spray by women with implanted volume of up to 270 ml, between the 5th and the 7th day after delivery. This data may be related to the greater compression on the gland exerted by larger implants, making it possible for women with smaller implants to notice early reduction of milk ejection and production, with consequent use of this input.

Oral galactagogues were more common among puerperal women with prepectoral implants between the 5th and 7th day after delivery. These results may occur due to the greater compression of the mammary gland in the presence of prepectoral implants, leading to a reduction in milk drainage and greater use of these medications in the period after 'milk let-down'.

These results may also point to the indiscriminate and increasingly common use of galactagogues in daily practice, which are mostly prescribed without previous clinical evaluation and in an inadequate manner by trained professionals.

Regarding the presence of pain in breastfeeding and the occurrence of nipple lesion, no similar studies were found in the analyzed literature that allowed comparability of the results identified; however, it is known that pain in women with breast implants can not only result from the breastfeeding process, but also from the trauma of the surgical procedure[25].

In that sense, an American publication has identified that 20% of women who received breast implants report pain even 5 years after the procedure[25], which corroborates the data found in which women who underwent surgery up to 10 years earlier reported the presence of pain more frequently, as well as higher pain scores. This situation may be aggravated during the 'milk let-down' period, particularly in the cases of prepectoral implants due to the pressure of the implant on the mammary gland, which is already engorged, swollen and sore.

We can point out the sample losses resulting from a follow-up study as a limitation in this study.

CONCLUSION

This study has led to the conclusion that the presence of pain and higher pain scores, the occurrence of lesion and the use of oral and nasal galactagogues were associated with implant placement, implant size and time elapsed since surgery.

Understanding the surgical characteristics and its association with variables related to breastfeeding helps to clarify the female population who wish to perform breast augmentation and later breastfeed, as well as those who are breastfeeding. In addition, it provides professional training for adequate management of the difficulties associated with breastfeeding and for the complexity of this process in the presence of breast implants, favoring integral and individual care to this population, as well as facilitating or providing the experience of breastfeeding, whether exclusively or not.

RESUMO

Objetivo: Analisar a associação entre as características cirúrgicas da mamoplastia de aumento, tempo decorrido da cirurgia, via de acesso, local de implantação e volume implantado e as variáveis relacionadas ao aleitamento, tipo, apojadura, ingurgitamento mamário, dor, lesão, produção láctea e uso de galactagogos. **Método:** Coorte prospectiva realizada entre 2015 e 2017, com 115 puérperas com mamoplastia de aumento durante a internação hospitalar (12 a 72 horas após o parto), atendimento domiciliar (5º ao 7º dia após o parto) e contato telefônico (entre o 30º e o 32º dia após o parto). **Resultados:** Na primeira avaliação, identificou-se o uso mais frequente de galactagogos orais (p=0,029) por puérperas com implante pré-peitoral, e de ocitocina spray por aquelas com prótese de até 270 ml (p=0,040). Na segunda avaliação, observou-se maior escore de dor naquelas com implante pré-peitoral (p=0,046). Em torno do 30º dia pós-parto, a presença de lesão mamilar (p=0,021), de dor (p=0,025) e seu maior escore (p=0,039) foram mais frequentes naquelas com mamoplastia realizada havia menos de 10 anos. **Conclusão:** A presença e o maior escore dor, a ocorrência de lesão e o uso dos galactagogos orais e nasal estiveram associados ao local de implantação, ao tamanho da prótese e ao tempo decorrido da cirurgia.

DESCRITORES

Aleitamento Materno; Mamoplastia; Implante Mamário; Enfermagem Obstétrica.

RESUMEN

Objetivo: En el presente estudio se analizó la asociación entre las características quirúrgicas de la mamoplastia de aumento, tiempo transcurrido de la cirugía, vía de acceso, lugar de implantación y volumen implantado y las variables relacionadas con la lactancia, tipo, apogeo, ingurgitación mamaria, dolor, lesión, producción láctea y uso de galactagogos. **Método:** Cohorte prospectiva realizada entre 2015 y 2017, con 115 puérperas con mamoplastia de aumento durante la internación hospitalaria (12 a 72 horas después del parto), atención domiciliar (5º al 7º día después del parto) y contacto telefónico (entre el 30º y el 32º día después del parto). **Resultados:** En la primera evaluación, se identificó el uso más frecuente de galactagogos orales (p=0,029) por puérperas con implante pre-pectoral, y de ocitocina spray por aquellas con prótesis de hasta 270 ml (p=0,040). En la segunda evaluación, se observó mayor puntaje de dolor en aquellas con implante pre-pectoral (p=0,046). En torno al 30º día post-parto, la presencia de lesión mamilar (p=0,021), de dolor (p=0,025) y su mayor puntuación (p=0,039) fueron más frecuentes en aquellas con mamoplastia realizada hace menos de 10 años. **Conclusión:** La presencia y el mayor puntaje de dolor, la ocurrencia de lesión y el uso de los galactagogos orales y nasales estuvieron asociados al lugar de implantación, al tamaño de la prótesis y al tiempo transcurrido de la cirugía.

DESCRIPTORES

Lactancia Materna; Mamoplastía; Implantación de Mama; Enfermería Obstétrica.

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