UNIVERSIDADE FEDERAL DE SERGIPE
CENTRO DE CIÊNCIAS BIOLÓGICAS E DA SAÚDE
DEPARTAMENTO DE MEDICINA

ANÁLISE COMPARATIVA DA SIMETRIA MAMÁRIA PRÉ E PÓS-OPERATÓRIA EM PACIENTES SUBMETIDAS A CIRURGIA ONCOPLÁSTICA DA MAMA MEDIANTE A UTILIZAÇÃO DO SOFTWARE *BSYMMETRY*

Aracaju
2018

Anna Maria Fonseca Albuquerque

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Trabalho de Conclusão de Curso apresentado ao colegiado do curso de Medicina da Universidade Federal de Sergipe, como requisito parcial para obtenção do título de bacharel em Medicina.
Orientadora: Prof. **Dra. Thaís Serafim Leite de Barros Silva**
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Aracaju, 2018

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Universidade Federal de Sergipe

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ARTIGO ORIGINAL

SUMÁRIO

RESUMO

INTRODUÇÃO: Com o advento da cirurgia oncoplástica da mama observou-se, frequentemente, uma melhora no status inicial da mama com aumento da autoestima da paciente. Porém, ainda se observa, na prática clínica, um percentual significativo de pacientes insatisfeitas com o resultado pós-cirúrgico no tocante a simetria mamária. Essa insatisfação é subjetiva e pode levar a quebra da harmonia na relação médico-paciente, o que motivou o presente estudo com a análise impessoal por software de fácil utilização e aquisição. **MÉTODO:** Pacientes da Unidade da Mama do Hospital Nossa Senhora das Graças em Curitiba – PR, submetidas à cirurgia conservadora de mama, com reconstrução imediata com técnicas oncoplásticas para simetrização no período entre janeiro de 2012 e setembro de 2015 tiveram suas mamas fotografadas no pré e pós-operatório (6 meses). Essas fotos foram submetidas ao software *BSymmetry* que efetuou análise da simetria mamária através do fornecimento de um percentual. Foi efetuada uma relação entre esses percentuais e variáveis clinicas e oncológicas. **RESULTADOS:** As variáveis estudadas não alteraram de forma estatisticamente significativa a simetria mamária. **CONCLUSÕES:** A simetria mamária tem importância na satisfação pós-cirúrgica por parte da paciente e do profissional médico. Nenhuma variável estudada demostrou influenciar de forma estatisticamente significativa ($p<0.05$) a simetria mamária. O *Bsymmetry* demonstrou ser de fácil utilização, com possibilidade de se tornar uma ferramenta de uso cotidiano nos blocos cirúrgicos e consultórios médicos.

Palavras chave: Software; Cirurgia Plástica; Neoplasia da mama; Período Pós-operatório; Tratamento conservador; Biotecnologia.

ABSTRACT

BACKGROUND: With the advent of oncoplastica breast surgery there was often an improvement on the initial status of the breast with increasing the patient`s self-esteem. But despite the use of these techniques still noted, in clinical practice, a significant percentage of patients dissatisfied with the post surgical result regarding breast symmetry. This dissatisfaction is often subjective and can lead to breakage of the harmony in the doctor-patient relationship and a likely and unwanted legal questioning, which motivated the present study with the impersonal analysis by software of easy use and obtaining. **METHOD:** Patients of the breast unit of Hospital Nossa Senhora das Graças in Curitiba – PR, undergoing breast-conserving surgery with immediate reconstruction with oncoplastics techniques involving different cutaneous accesses, pedicles and mammoplasty for symmetrization between January 2012 to September 2015 had their breasts photographed in pre and post-operative (6 months). These images were submitted to BSymmetry software that made breast symmetry analysis by providing a percentage. It was made a relationship between these percentages and variables oncological e clinicals. **RESULTS:** The studied variables have not changed statistically significant the breast symmetry. **CONCLUSIONS:** The breast symmetry matter in post-surgical patient's satisfaction and medical professional. No variable studied demonstrated influence of statistically significant way ($p < 0.05$) breast symmetry. The BSymmetry, proved to be easy to use with the possibility of becoming a tool of everyday use in surgical and medical offices.

Keywords: Software; Plastic Surgery; Breast cancer; Breast neoplasms; Postoperative Period; Conservative Treatment; Biotechnology.

1 REVISÃO DE LITERATURA

Para o adequado planejamento do procedimento terapêutico no tratamento do câncer de mama deve-se levar em consideração algumas variáveis: a extensão da doença; a localização do tumor; a distância entre o tumor e o mamilo; a proximidade do tumor com a pele, doença multifocal ou multicêntrica; radiação mamária ou cirurgia mamária prévia; o grau de ptose mamária e a mama contralateral (KAVIANI et al., 2014; RIETJENS et al.,2007; URBAN et al., 2011). A seleção das pacientes e o planejamento cirúrgico bem estruturado são os principais pré-requisitos para o sucesso da cirurgia (KAVIANI et al., 2013; MUNHOZ; GEMPERLI; FERREIRA, 2008).

A cirurgia oncoplástica é considerada atualmente como uma ressecção tumoral bem executada, seguida por reconstrução imediata da mama, levando em consideração a simetrização com a mama contralateral em tempo cirúrgico único (URBAN et al., 2014). As principais indicações da cirurgia oncoplástica são: ressecção mamária oncológica com volume superior a 20% e pacientes com mamas volumosas, nas quais o resultado de uma técnica de mastectomia poupadora de pele e/ou poupadora do complexo areolopapilar apresentam resultados incertos (URBAN et al., 2011).

Apresenta como contraindicações relativas: tumores extensos localizados na região medial da mama; mamas de pequeno volume ou sem ptose; mamas previamente submetidas a radioterapia; pacientes tabagistas ou com diabetes descompensado; expectativa exagerada, por parte da paciente, quanto ao resultado estético (URBAN et al., 2011).A obesidade, o tabagismo e a radioterapia prévia podem causar aumento no número de complicações independentemente da técnica cirúrgica escolhida.

Compreende técnicas cirúrgicas descritas como: redução mamária, remodelamento mamário e deslocamento de retalhos locais (MUNHOZ; GEMPERLI; FERREIRA, 2008).

A cirurgia oncoplástica deve ser conceituada como uma associação de técnicas cirúrgicas e filosofias de duas especialidades cirúrgicas diferentes, com objetivos aparentemente opostos: a cirurgia oncológica e cirurgia plástica, buscando um refinamento do tratamento conservador da mama. Tradicionalmente eram duas especialidades separadas e sem comunicação na definição do tratamento. Essa

barreira sempre existiu, resultado do receio de que as técnicas de cirurgia plástica, menos agressivas e mais estéticas viessem a comprometer a segurança oncológica, provavelmente levando a um aumento nas recidivas tumorais e diminuição na sobrevida dos pacientes (URBAN et al., 2014).

Define-se como critérios essenciais para obtenção de um resultado satisfatório: cirurgia bem indicada específica para cada tipo de tumor, reconstrução imediata e manejo/simetrização da mama contralateral (MUNHOZ; GEMPERLI; FERREIRA, 2008).

A cirurgia oncoplástica alcança melhores resultados estéticos quando comparada ao tratamento conservador sem oncoplastia. Esses resultados são bem avaliados de forma semelhante por especialistas e por ferramentas tipo software (BCCT.core). O tratamento conservador isolado alcança piores resultados quando na presença de idade da paciente superior a 70 anos, tumores situados nos quadrantes inferior, medial e central e em mamas volumosas (SANTOS et al., 2015).

Aproximadamente 30% das pacientes submetidas a cirurgia conservadora da mama relatam severo grau de assimetria mamária (WANG et al., 2008). Apesar do aumento da utilização das técnicas oncoplásticas, os benefícios deste procedimento, como seu resultado estético pós-cirúrgico (simetria) para as pacientes, raramente têm sido quantificados de forma objetiva e padronizada (SABINO et al., 2008). Para ter aplicação clínica, uma ferramenta de avaliação de simetria mamária tem que ser objetiva e simples.

Algumas escalas foram elaboradas com o intuito de quantificar a assimetria. A escala de Havard, proposta por Harris et al. (1979), a escala descrita por Van Dam e Aaronson (VAN DAM FS; AARANSON NK; ENGELSMEN E., 1998) e o método descrito e posteriormente modificado por Garbay (VEIGA DF et al., 2011). YU T et al. (2015) descrevem a aparência estética global das mamas em 04 níveis: excelente, satisfatório, bom e pobre. É definida como uma escala simples, de fácil execução, porém a concordância entre os observadores é precária e dependente da experiência desses profissionais. Outra escala, considerada mais objetiva, é a *BRA* (Breast Retraction Assessment) que avalia a distância entre a fúrcula esternal e os mamilos e a distância entre os mamilos e a linha axilar anterior. Utiliza apenas dados quantitativos, apresentado concordância entre observadores. Apresenta como falha a não quantificação de fatores que prejudicam o resultado cosmético, a saber: alterações da pele e cicatrizes irregulares e hipertróficas (YU T et al., 2015).

Outra ferramenta utilizada é o *BREAST-Q,* um questionário desenvolvido para avaliação de resultados em cirurgia mamária. Sua validação envolveu cerca de 3.000 mulheres por um período de aproximadamente cinco anos. O *BREAST-Q* descreve o desfecho clínico-psicométrico, avaliado e observado pela paciente, com um sistema definido de pontuação. É composto por escalas múltiplas e independentes (PUSIC; KLASSEN; CANO, 2012).

CHUNG e PUSIC (2013) concluíram que o *BREAST-Q* tem o potencial de quantificar de forma confiável os resultados do ponto de vista da paciente.

KURODA, URBAN et al. (2016) demonstraram que as pacientes avaliam mais positivamente o resultado estético do seu pós-operatório quando comparado com a avaliação feita por especialistas e pelo software BCCT.core. Não observaram diferenças estatisticamente significantes entre a avaliação fornecida pelo software e pelos especialistas. Relataram também, que a maioria das pacientes estavam satisfeitas com o seu resultado pós-cirúrgico e com o seu bem-estar psicossocial e sexual.

URBAN (2017) recomenda a obtenção da simetria mamária nas cirurgias oncoplásticas. Pode-se com o tratamento conservador associado a técnicas oncoplásticas, melhorar a aparência inicial das mamas, mas esse resultado não deve ser prometido, a fim de evitarmos problema médico-legal. Deve-se entender que existem diferenças significativas entre as pacientes submetidas a cirurgia estética das mamas e a cirurgia oncoplástica. E que essas diferenças trazem resultados finais diferentes.

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1. Rod J. Rohrich, MD. Department of Plastic Surgery, University of Texas Southwestern Medical Center; Dallas Texas.

2. Kailash Narasimhan, MD. Sherman Surgery Center; Sherman, Texas.

Corresponding author:

Kailash Narasimhan, MD

Sherman Sugery Center

1111 Sara Swamy Drive

Sherman, Texas 75090 USA

nkailash100@yahoo.com

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3 ARTIGO ORIGINAL

ANÁLISE COMPARATIVA DA SIMETRIA MAMÁRIA PRÉ E PÓS-OPERATÓRIA EM PACIENTES SUBMETIDAS A CIRURGIA ONCOPLÁSTICA DA MAMA MEDIANTE A UTILIZAÇÃO DO SOFTWARE *BSYMMETRY*

Eduardo J S da **Fonseca**[1], MD, Thaís S L de B **Silva**[1], MD, Anna M F **Albuquerque**[1].

1 Universidade Federal de Sergipe, Brasil

Autor Correspondente:

Anna Maria Fonseca Albuquerque

Endereço: Rua Joventina Alves, 653.

CEP: 49020-330;

Aracaju - Sergipe - Brasil;

Tel: +55 (79) 3246-1273 / 99821-8738.

E-mail: annamariafonsecaa@gmail.com

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Título resumido: Avaliação da simetria em oncoplastia.

3.1 Resumo

INTRODUÇÃO: Com o advento da cirurgia oncoplástica da mama observou-se, frequentemente, uma melhora no status inicial da mama com aumento da autoestima da paciente. Porém, ainda se observa, na prática clínica, um percentual significativo de pacientes insatisfeitas com o resultado pós-cirúrgico no tocante a simetria mamária. Essa insatisfação é subjetiva e pode levar a quebra da harmonia na relação médico-paciente, o que motivou o presente estudo com a análise impessoal por software de fácil utilização e aquisição. **MÉTODO:** Pacientes da Unidade da Mama do Hospital Nossa Senhora das Graças em Curitiba – PR, submetidas à cirurgia conservadora de mama, com reconstrução imediata com técnicas oncoplásticas para simetrização no período entre janeiro de 2012 e setembro de 2015 tiveram suas mamas fotografadas no pré e pós-operatório (6 meses). Essas fotos foram submetidas ao software *BSymmetry* que efetuou análise da simetria mamária através do fornecimento de um percentual. Foi efetuada uma relação entre esses percentuais e variáveis clinicas e oncológicas. **RESULTADOS:** As variáveis estudadas não alteraram de forma estatisticamente significativa a simetria mamária. **CONCLUSÕES:** A simetria mamária tem importância na satisfação pós-cirúrgica por parte da paciente e do profissional médico. Nenhuma variável estudada demostrou influenciar de forma estatisticamente significativa ($p<0.05$) a simetria mamária. O *BSymmetry,* demonstrou ser de fácil utilização com possibilidade de se tornar uma ferramenta de uso cotidiano nos blocos cirúrgicos e consultórios médicos.

Palavras chave: Software; Cirurgia Plástica; Neoplasia da mama; Período Pós-operatório; Tratamento conservador; Biotecnologia.

3.2 Abstract

BACKGROUND: With the advent of oncoplastica breast surgery there was often an improvement on the initial status of the breast with increasing the self-esteem of the patient. But despite the use of these techniques still noted, in clinical practice, a significant percentage of patients dissatisfied with the post surgical result regarding breast symmetry. This dissatisfaction is often subjective and can lead to breakage of the harmony in the doctor-patient relationship and a likely and unwanted legal questioning, which motivated the present study with the impersonal analysis by software of easy use and obtaining. **METHOD:** Patients breast unit of Hospital Nossa Senhora das Graças in Curitiba – PR, undergoing breast-conserving surgery with immediate reconstruction with oncoplastics techniques involving different cutaneous accesses, pedicles and mammoplasty for symmetrization between contralateral January 2012 to September 2015 had their breasts photographed in pre and post-operative (6 months). These images were submitted to BSymmetry software that made breast symmetry analysis by providing a percentage. Was made a relationship between these percentages and variables oncological e clinicals. **RESULTS:** The studied variables have not changed so statistically significant the breast symmetry. **CONCLUSIONS:** the breast symmetry matter in post-surgical patient's satisfaction and medical professional. No variable studied demonstrated influence of statistically significant way ($p < 0.05$) breast symmetry. The BSymmetry, proved to be easy to use with the possibility of becoming a tool of everyday use in surgical and medical offices.

Keywords: Software; Plastic Surgery; Breast cancer; Breast neoplasms; Postoperative Period; Conservative Treatment; Biotechnology.

3.3 Introdução

O câncer de mama é a neoplasia maligna mais frequente em mulheres em todo o mundo[1]. Nos Estados Unidos estimam-se 252.710 novos casos de câncer de mama para 2017. Para o Brasil, estimam-se 59.700 casos novos de câncer de mama, para cada ano do biênio 2018-2019, com um risco estimado de 56,33 casos a cada 100 mil mulheres[1,2].

As modalidades terapêuticas dessa neoplasia maligna incluem a abordagem loco-regional, com cirurgia e radioterapia, e o tratamento sistêmico, com quimioterapia, hormonioterapia e terapia biológica. Como tratamento cirúrgico tem-se a mastectomia a Halsted, a Patey, a Madden, mastectomia poupadora de pele e poupadora do complexo areolopapilar, a cirurgia conservadora da mama e a cirurgia oncoplástica[3-7].

Apesar da evidente redução da radicalidade observada desde Halsted até o presente[3-7], a obtenção de resultados nem sempre satisfatórios pela cirurgia conservadora suscitou a busca por técnicas cirúrgicas que melhorassem esses resultados sem prejudicar a segurança oncológica, nascia aí a cirurgia oncoplástica da mama, que combina uma série de técnicas que objetivam um excelente controle local do tumor, com margens cirúrgicas seguras e resultados estéticos satisfatórios, muitas vezes melhorando o status inicial da mama com aumento da autoestima da paciente[8-10].

Apesar do aumento da utilização das técnicas oncoplásticas, os benefícios deste procedimento, como seu resultado estético pós-cirúrgico (simetria)[11] para as pacientes, raramente têm sido quantificados de forma objetiva e padronizada[12].

Algumas escalas foram elaboradas com o intuito de quantificar a assimetria. A escala de Havard (1979), a escala descrita por Van Dam e Aaronson e o método descrito e posteriormente modificado por Garbay[7-9]. São definidas como escalas simples, de fácil execução, porém a concordância entre os observadores é precária e dependente da experiência desses profissionais. Outra escala, considerada mais objetiva, é a *BRA* (*Breast Retraction Assessment*) que utiliza apenas dados quantitativos e apresenta concordância entre observadores. Apresenta como falha a não quantificação de fatores que prejudicam o resultado cosmético, a saber: alterações da pele e cicatrizes irregulares e hipertróficas[9].

Outra ferramenta utilizada é o *BREAST-Q,* um questionário desenvolvido para avaliação de resultados em cirurgia mamária. Entretanto, a validação é dada sob a óptica da paciente[10], o que leva a um viés de análise, uma vez que as pacientes avaliam mais positivamente o resultado estético do seu pós-operatório quando comparada à avaliação de especialistas ou *softwares* como o BCCT.core.

As ferramentas atualmente disponíveis (escalas, questionários e o software para computador BCCT.core) apresentam limitações seja por subjetividade ou pela dificuldade de execução, o que motivou o presente estudo com um *software* de fácil utilização e obtenção.

3.4 Objetivos

3.4.1 Objetivo geral

Este estudo tem como objetivo analisar comparativamente, mediante a utilização de um aplicativo para *smartphone* e/ou *tablet*, a simetria mamária pré e pós-operatória em pacientes submetidas a cirurgias oncoplásticas da mama, no período de 2012 a 2015 na Unidade da Mama do Hospital Nossa Senhora das Graças em Curitiba – PR.

3.4.2 Objetivos Específicos

- Analisar variáveis clinicas que alteram a simetria.
- Analisar variáveis oncológicas que alteram a simetria.

3.5 Métodos

Trata-se de um estudo unicêntrico, retrospectivo, observacional analítico, mediante a utilização de um aplicativo para *smartphone* e/ou *tablet* desenvolvido pelo mestre em biotecnologia Diego Navarro (Desenvolvimento de um sistema computacional para avaliação de simetria mamária, 2017), denominado *BSymmetry*. Foram analisadas 106 fotografias pré e pós-operatórias de pacientes do sexo feminino submetidas a tratamento conservador da mama utilizando técnicas oncoplásticas, no Hospital Nossa Senhora das Graças em Curitiba – PR no período compreendido entre janeiro de 2012 e setembro de 2015.

Foi feita uma avaliação da simetria mamária pré-operatória, com a obtenção de um percentual que quantifica essa variável. Realizou-se uma comparação com o percentual de simetria pós-operatória nas pacientes submetidas a cirurgia oncoplástica das mamas (Figura 1).

Foram avaliadas, também, as características individuais das pacientes, como idade, comorbidades (diabetes e doenças cardiovasculares), índice de massa corpórea (IMC), tamanho das mamas e tabagismo. Os fatores oncológicos analisados foram: local do tumor, tipo de cirurgia, tipo histológico e realização de radioterapia.

Os critérios de inclusão no estudo foram os seguintes:

a) Sexo feminino com idade superior a 18 anos;
b) Pacientes submetidas a terapia conservadora da mama com utilização de técnicas oncoplásticas para tratamento do câncer de mama;
c) Pacientes que possuírem fotografias adequadas do pré e pós-operatório;
d) Pacientes submetidas ou não a radioterapia adjuvante;
e) Pacientes submetidas ou não a quimioterapia neoadjuvante.

As pacientes foram excluídas nas seguintes situações:

a) Pacientes submetidas a tratamento conservador sem o uso de técnicas oncoplásticas;
b) Pacientes submetidas a mastectomia com ou sem preservação do complexo areolopapilar.

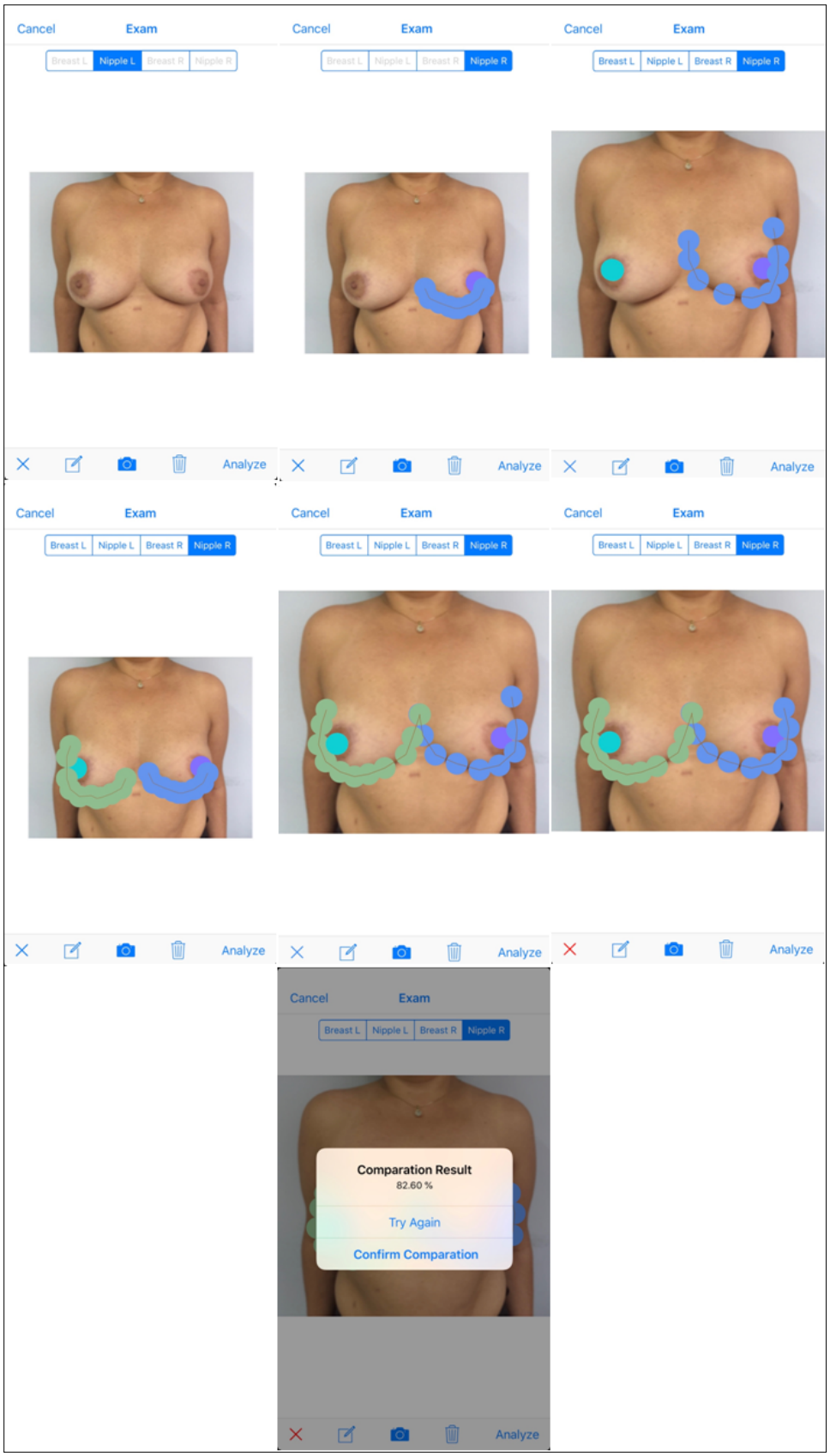

Figura 1 – Demonstração do uso do aplicativo *BSymmetry*.

A partir da identificação das 15 pacientes que apresentaram melhor ganho na simetria e as 15 pacientes que apresentaram maior piora na simetria foram analisados os tipos de intervenções utilizadas e os consequentes desfechos entre os fatores, estão: comorbidades, tabagismo, neoadjuvância (qualquer tratamento oncológico sistêmico prévio a cirurgia), tipo de cirurgia (pedículos e *round block*), local do tumor, estadiamento clínico e anatomopatológico.

Os dados obtidos foram tabulados em planilha eletrônica no formato Microsoft Excel 2011. A análise dos dados foi apresentada na forma de frequência e percentual. Na análise da influência das variáveis estudadas nos grupos de maior ganho e maior perda foi utilizado o teste de qui-quadrado com correção de Fisher, quando se fez necessário. O valor de *p* foi considerado significativo quando menor do que 0,05. A análise estatística foi realizada pelo software Epi Info versão 7.

3.6 Resultados e Discussão

Foram analisadas 106 fotografias pré e pós-operatória de 53 pacientes submetidas a cirurgia oncoplástica da mama no período de 01/01/2012 até 30/09/2015. A média de idade foi de 56,6 anos, com mínima de 37 e máxima de 75 anos. Verificou prevalência de pacientes na pós-menopausa- 31 mulheres (58,5%). O IMC apresentou maior resultado na faixa compreendida entre 25 e 30 Kg/m^2- 24 pacientes (45,3%). Três pacientes (5,7%) apresentaram histórico de tabagismo. Como comorbidades foram tabuladas o diabetes mellitus, presente em 7 pacientes (13,1%) e a doença cardiovascular, encontrada em 16 mulheres (30,2%), demostrados na tabela 1.

Tabela 1 - Características epidemiológicas da população

Característica	População
Total	53
Idade média ± Desvio Padrão	56,6 ± 9,98
IMC	
≤ 25 Kg/m²	16 (30,2%)
25 ┤ 30 Kg/m²	24 (45,3%)
30 ┤ 35 Kg/m²	11 (20,7%)
35 ┤ 40 Kg/m²	1 (1,9%)
≥ 40 Kg/m²	1 (1,9%)
Cirurgia Mamária Prévia	
Sim	4 (7,6%)
Não	49 (92,4%)
História de Tabagismo	
Sim	3 (5,7%)
Não	50 (94,3%)
Comorbidades	
Nenhuma	38 (71,7%)
Diabetes Mellitus	7 (13,7%)
Doença Cardiovascular	16 (30,2%)
Tamanho das Mamas	
P	3 (5,7%)
M	20 (37,3%)
G	23 (43,4%)
GG	7 (23,2%)
Status Menopausal	
Pré-menopausa	22 (41,5%)
Pós-menopausa	31 (58,5%)

IMC – Índice de Massa Corporal; **P –** Pequenas; **M –** Médias; **G –** Grandes; **GG –** Gigantes

A cirurgia oncoplástica utilizando o pedículo inferior foi realizada em 39 pacientes (73,6%). A localização mais frequente encontrada para o tumor da mama foi o QSL- 24 casos (45,3%). Tumores T1 (<20mm) perfizeram 79,2% da amostra. Apenas uma paciente (1,9%) não foi submetida a radioterapia (tabela 2).

Tabela 2 – Características oncocirúrgicas da população

Característica	População
Localização do Tumor	
QSL	24 (45,3%)
QIL	4 (7,5%)
QSM	5 (9,4%)
QIM	2 (3,8%)
RRA	2 (3,8%)
UQQSS	9 (16,9%)
UQQLL	5 (9,4%)
UQQMM	1 (1,9%)
UQQINFs	1 (1,9%)
PA	-
Tamanho do Tumor	
T1 (≤ 20mm)	42 (79,2%)
T2 (20 ┤ 50mm)	10 (18,9%)
T3 (> 50mm)	1 (1,9%)
Tipo de Cirurgia Oncoplástica	
Pedículo Inferior	39 (73,6%)
Pedículo Superior	5 (9,4%)
Pedículo Lateral	1 (1,9%)
Round Block	8 (15,1%)
Radioterapia	
Prévia a Cirurgia	-
Após a Cirurgia	52 (98,1%)
Não realizou	1 (1,9%)

QSL – Quadrante Superior Lateral; QIL – Quadrante Inferior Lateral; QSM – Quadrante Superior Medial; QIM – Quadrante Inferior Medial; RRA – Região retroareolar; UQQSS – União dos Quadrantes superiores ; UQQLL – União dos Quadrantes Laterais ; UQQMM – União dos Quadrantes Mediais; UQQINFs – União dos Quadrantes Inferiores ; PA – Prolongamento axilar.

Após submeter as fotografias pré e pós-operatórias das 53 pacientes ao software *Bsymmetry* e obtenção de percentual de modificação na simetria mamária foram constituídos 02 grupos: 15 pacientes que apresentaram maior percentual de melhora na simetria e 15 pacientes que demostraram um maior percentual de piora na simetria mamária (tabelas 3 e 4).

Tabela 3 – Quinze maiores ganhos percentuais em simetria

Média	49,36%
Mediana	34%
Desvio Padrão	37,09
Maior ganho	157,8%
Menor ganho	21%

Tabela 4 – Quinze maiores perdas percentuais em simetria

Média	11,4%
Mediana	9,9%
Desvio Padrão	5,75
Maior perda	25,9%
Menor perda	5,6%

Foram analisados fatores que possivelmente estariam associados a alteração na simetria mamária, entre eles: IMC, cirurgia mamária prévia, histórico de tabagismo, comorbidades (diabetes mellitus e doença cardiovascular), status menopausal, tamanho das mamas (previamente a cirurgia), tipo de cirurgia oncoplástica, tamanho e localização do tumor na mama e realização de radioterapia, demonstrados anteriormente nas tabelas 5 e 6.

Tabela 5 - Correlação entre simetria e características epidemiológicas da população em estudo

Característica	População	Maior ganho	Maior perda	p-value
Total	53	15	15	
Idade média	56,6	58	53	
IMC				**0,1**
≤ 25 Kg/m²	16 (30,2%)	4 (26,7%)	2 (13,3%)	
25 ┤ 30 Kg/m²	24 (45,3%)	8 (53,3%)	10 (66,7%)	
30 ┤ 35 Kg/m²	11 (20,7%)	2 (13,3%)	2 (13m3%)	
35 ┤ 40 Kg/m²	1 (1,9%)	0	1 (6,7%)	
≥ 40 Kg/m²	1 (1,9%)	1 (6,7%)	0	
Cirurgia Mamária Prévia				**0,96**
Sim	4 (7,6%)	1 (6,7%)	1 (6,7%)	
Não	49 (92,4%)	14 (93,3%)	14 (93,3%)	
História de Tabagismo				**0,93**
Sim	3 (5,7%)	1 (6,7%)	1 (6,7%)	
Não	50 (94,3%)	14 (93,3%)	14 (93,3%)	
Comorbidades				**0,92**
Nenhuma	38 (71,7%)	10 (66,7%)	12 (80%)	
Diabetes Melitus	7 (13,7%)	2 (13,3%)	2 (13,3%)	
Doença Cardiovascular	16 (30,2%)	5 (33,3%)	3 (20%)	
Tamanho das Mamas				**0,07**
P	3 (5,7%)	0	2 (13,3%)	
M	20 (37,3%)	5 (33,3%)	4 (26,7%)	
G	23 (43,4%)	5 (33,3%)	7 (46,7)	
GG	7 (23,2%)	5 (33,3%)	2 (13,3%)	
Status Menopausal				**0,52**
Pré-menopausa	22 (41,5%)	6 (40%)	8 (53,3%)	
Pós-menopausa	31 (58,5%)	9 (60%)	7 (46,7%)	

IMC – Índice de Massa Corporal; **P –** Pequenas; **M –** Médias; **G –** Grandes; **GG –** extragrandes

Tabela 6 – Correlação entre simetria e características oncocirúrgicas da população em estudo

Característica	População	Maior ganho	Maior perda	p-value
Localização do Tumor				**0,98**
QSL	24 (45,3%)	9 (60%)	5 (33,3%)	
QIL	4 (7,5%)	1 (6,7%)	3 (20%)	
QSM	5 (9,4%)	2 (13,3%)	1 (6,7%)	
QIM	2 (3,8%)	1 (6,7%)	0	
RRA	2 (3,8%)	0	1 (6,7%)	
UQQSS	9 (16,9%)	1 (6,7%)	3 (20%)	
UQQLL	5 (9,4%)	1 (6,7%)	1 (6,7%)	
UQQMM	1 (1,9%)	0	1 (6,7%)	
UQQINFs	1 (1,9%)	0	0	
PA	0	0	0	
Tamanho do Tumor				**0,42**
T1 (≤ 20mm)	42 (79,2%)	13 (86,7%)	12 (80%)	
T2 (20 ┤ 50mm)	10 (18,9%)	2 (13,3%)	2 (13,3%)	
T3 (> 50mm)	1 (1,9%)	0	1 (6,7%)	
Tipo de Cirurgia Oncoplástica				**0,64**
Pedículo Inferior	39 (73,6%)	11 (73,3%)	12 (80%)	
Pedículo Superior	5 (9,4%)	1 (6,7%)	1 (6,7%)	
Pedículo Lateral	1 (1,9%)	0	1 (6,7%)	
Round Block	8 (15,1%)	3 (20%)	1 (6,7%)	
Radioterapia				**0,68**
Prévia a Cirurgia	-	0	0	
Após a Cirurgia	52 (98,1%)	15 (100%)	14 (93,3%)	
Não realizou	1 (1,9%)	0	1 (6,7%)	

QSL – Quadrante Superior Lateral; QIL – Quadrante Inferior Lateral; QSM – Quadrante Superior Medial; QIM – Quadrante Inferior Medial; RRA - ; UQQSS - ; UQQLL - ; UQQMM - ; UQQINFs - ; PA - .

O grupo com melhora na simetria apresentou como idade média 58 anos. Oito pacientes (53,3%) possuíam IMC situado na faixa de 25 a 30 Kg/m^2. Apenas uma paciente (6,7%) relatava cirurgia mamária prévia. Quatorze pacientes (93,3%) afirmavam não ter histórico de tabagismo. Com relação as comorbidades avaliadas, esse grupo apresentava diabetes mellitus em 2 pacientes (13,3%) e doenças cardiovasculares diagnosticadas em 5 mulheres (33,3%), essas comorbidades não foram evidenciadas em 10 pacientes (66,7%). Em relação ao tamanho das mamas, verificamos 5 pacientes (33,3%) com mamas classificadas com M (médias), 5

(33,3%) com mamas ditas G (grandes), 5 pacientes (33,3%) com mamas GG (extragrandes) e nenhuma paciente apresentava mamas de tamanho pequeno (P). Nove pacientes (60%) encontravam-se na pós-menopausa (tabela 5).

Ainda em relação ao grupo com melhoria no percentual da simetria mamária, verificou-se a presença do tumor no QSL da mama em 9 pacientes (60%). Classificou-se como T1 (< 20mm) o tumor presente em 13 pacientes (86,7%). Como técnica oncoplástica, foram executados o pedículo inferior em 11 pacientes (73,3%) e o *round block* em 3 pacientes (20%). Todas as pacientes foram submetidas a radioterapia pós-operatória.

Na análise do grupo onde verificou-se uma piora no percentual da simetria, foi encontrada uma idade média de 53 anos. Da mesma forma que o grupo anterior, a maioria das pacientes – 10 (66,7%) - possuíam IMC na faixa de 25 a 30 Kg/m^2, somente uma paciente (6,7%) relatava abordagem cirúrgica prévia nas mamas e, também, quatorze pacientes (93,3%) negavam histórico de tabagismo. Na avaliação das comorbidades, aferiu-se que 02 pacientes (13,3%) portavam diabetes mellitus e 3 (20%) tinham diagnóstico de doenças cardiovasculares. Não foram identificadas essas comorbidades em 12 pacientes (80%). No tocante ao *status* menopausal, encontrou-se sete pacientes (46,7%) na pós-menopausa. Duas pacientes (13,3%) foram classificadas com mamas P (pequenas), 4 (26,7%) com mamas de tamanho M (médias), 7 pacientes (46,7%) com mamas G (grandes) e 2 mulheres (13,3%) apresentavam mamas extragrandes (GG), como relatado na tabela 5.

Concluindo a análise das variáveis no grupo com piora no percentual da simetria mamária, verificou-se que, de forma idêntica ao grupo anterior, a maioria dos tumores encontravam-se no QSL, 5 (33,3%). Doze pacientes (80%) tiveram seu diagnóstico com tumores classificados em T1 (< 20mm) e apenas 1 paciente (6,7%) apresentavam tumores classificados como T3 (>50mm). A técnica oncoplástica mais realizada foi o pedículo inferior em 12 pacientes (80%) seguida pelo pedículo superior, pedículo lateral e pelo *round block*, todos com 1 paciente (6,7% cada). Em relação a radioterapia, apenas uma paciente (6,7%) não foi submetida a esse tratamento adjuvante (tabela 6).

Nenhuma variável demonstrou ser estatisticamente significativa nos grupos estudados, resultado semelhante ao encontrado por TOSOL et al. (2016), apesar da variável referente ao tamanho da mama se aproximar dessa significância (p=0,07).

O software utilizado nesse estudo, o *BSymmetry,* demonstrou ser de fácil utilização – disponível para *smartphones* e/ou *tablets* – com possibilidade de se tornar uma ferramenta de uso cotidiano nos blocos cirúrgicos e consultórios.

3.6 Conclusão

A simetria mamária tem importância na satisfação pós-cirúrgica por parte da paciente e do profissional médico. Nenhuma variável estudada demostrou influenciar de forma estatisticamente significativa ($p<0.05$) a simetria mamária. Apenas a variável referente ao tamanho da mama se mostrou próxima dessa significância ($p=0.07$).

O software utilizado nesse estudo, o *BSymmetry,* demonstrou ser de fácil utilização – disponível para *smartphones* e/ou *tablets* – com possibilidade de se tornar uma ferramenta de uso cotidiano nos blocos cirúrgicos e consultórios médicos.

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