

Round Block Technique in the Management of Breast Cancer, Meta-Analysis Study

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Abstract

Background: Breast cancer is the one of the important medical issues nowadays. The surgical treatment of breast cancer has evolved greatly over the past years. It has developed from a radical procedure to a procedure combining both oncologic and aesthetic principles. Upon well-understanding of the anatomy of the breast, surgeons could develop the oncoplastic procedures.

Aim of Study: To assess, through the available literature, the oncologic and aesthetic outcomes of the Round Block Technique and to identify the post-operative complications after the use of this technique.

Material and Methods: Publications from Medline databases (PubMed, Medscape, ScienceDirect, EMF-Portal) and all materials available on the Internet till 2021.

This is a meta-analysis of the Round Block Technique in the surgical management for breast cancer. It was done from December 2020 till January 2022. This review was conducted according to the Preferred Reporting Items for Meta-Analyses (PRISMA) guidelines. 80 The PRISMA Statement was published in 2009. If the studies did not fulfill the inclusion criteria, they were excluded. Study quality assessment included whether ethical approval was gained, eligibility criteria specified, appropriate controls, and adequate information and defined assessment measures.

Results: As regards the total post-operative complications, they were low after the use of the Round Block Technique. It had a percentage of 17.2% (95% CI: 12.4-23.4%). Infection was reported in percentage of 4% (95% CI: 2.9%-5.5%), seroma had a percentage of 6.5% (95% CI: 3.7%-11.4%), hematoma had a percentage of 3.8% (95% CI: 2.6%-5.4%), wound complications had a percentage of 3.3% (95% CI: 2.2%-5.1%) while the Nipple-areola complex complications had a percentage of 2.4% (95% CI: 0.8%-6.9%). After all these results, it's obvious that the Round Block technique had a low rate of different types of post-operative complications.

Conclusion: Round Block technique is an excellent choice as an oncoplastic technique in patients with early breast cancer with mild to moderate ptosis. It's safe oncologically with a

very good aesthetic outcome. Patients underwent that technique had high satisfaction with a low rate of complications.

Key Words: Breast Cancer – Breast conservative surgery – Round block technique – Donut mastopexy – Oncoplastic breast surgery.

Introduction

THE female breast is a symbol of beauty, fertility, and femininity. Since antiquity, breast diseases had challenged physicians. The Edwin Smith Papyrus, which dates back to 1,500-2,000 B.C provided authentic records and illustrations of breast cancer [1,2].

Breast cancer is the most common cancer in women in Egypt and worldwide; and the second most common cancer overall. It is the most common cause of death in women worldwide [3,4].

The surgical management of breast cancer has developed over years. The approach in the pre-Halsted era was very brutal. It was treated with cauterization or breast amputation. Moreover, before the nineteenth century, anesthesia wasn't involved [5].

In 1882 Halsted performed the first clearly documented radical mastectomy in the United States at Johns Hopkins Hospital. Radical mastectomy was believed to stop the spread of breast cancer from the breast towards the lymph nodes and to distant organs. In 1948, the modified radical mastectomy, which spared the pectoralis muscles, was introduced by Patey. It was the standard of care for the surgical treatment of breast cancer till the mid-1970s [6].

During the 1980s, the role of Breast Conservative Surgery (BCS) was established by the pioneer-

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ing effort of Umberto Veronesi in Italy and Bernard Fisher in the USA. They proved by randomized trials that the overall survival after breast conservation plus adequate radiotherapy was similar to that following mastectomy [7,8].

In the early 1990s, the term “oncoplastic” was first introduced by Audretsch. Oncoplastic breast surgery consists of various techniques that allow the surgeon to excise masses with a wider margin and keep a simultaneous enhancement of cosmetic outcome reducing defect following partial mastectomy. This integration between plastic surgery techniques and oncologic surgery gives the surgeon a new tool for treatment of breast cancer [9]. It's divided into volume displacement techniques “including level I & II” and volume replacement techniques [8].

In 1990, Louis Benelli described a technique called the round block technique. It is used to correct ptosis in small to medium-sized breasts. It's done by a periareolar incision that allows removing the excess skin of breast ptosis, manipulating the breast tissue, and placing the nipple in a higher position. It can be used also in the treatment of breast cancer with early stages [10].

Better understanding of the tumor biology and recent advances in molecular analysis has facilitated the development of effective targeted systemic agents. The use of these agents as neoadjuvant therapy has increased the rate of breast conservative and oncoplastic surgeries. Also, the use of these agents as adjuvant therapy has shown to improve the overall survival and decrease recurrence rates [11,12].

Radiotherapy has a major role in the treatment of breast cancer. The BCS must be followed by radiotherapy to the residual mammary gland. This provides survival rates equivalent to those of total mastectomy and has shown to reduce local recurrence [13].

Screening for breast cancer besides the major advances in diagnosis means has facilitated early detection and management of breast cancer at its early stages. This caused mortality reduction for women in different age groups [12].

Aim of the work:

The study was designed to assess, through the available literature, the oncologic and aesthetic outcomes of the Round Block Technique and to identify the post-operative complications after the use of this technique.

Material and Methods

This is a meta-analysis of the Round Block Technique in the surgical management for breast cancer. This review was conducted according to the Preferred Reporting Items for Meta-Analyses (PRISMA) guidelines. 80 The PRISMA Statement was published in 2009.

Inclusion criteria:

This study includes published papers and research written in English language that was published from January 2010 to December 2020.

Exclusion criteria:

Papers not written in English, studies before 2010, pre-prints and case report or case series study.

Search strategy for identification of studies:

A meta-analysis was performed in accordance with the PRISMA and PICO guidelines. Electronic search was conducted in PubMed, Clinical Key, Scopus, EMBASE, LILACS via Virtual Health Library, Google Scholar, and the Cochrane Library to identify relevant articles. For this review, the register was searched using the terms “the role of Round Block Technique in the surgical management of breast cancer”, “round block technique”, “donut mastopexy”, “oncoplastic breast surgery” and “breast conservative surgery”. Review articles and bibliographies of each trial identified were searched for additional references that may contain further types of trials.

Study selection and quality:

Abstracts of articles that were published from 2010-2020 identified using the search strategy was viewed and articles that appeared to fulfill the inclusion criteria was retrieved in full. Data on at least one of the outcome measures was included in the study.

Data extraction:

Data was independently extracted by two reviewers and cross-checked. Data included; authors, period of study, year of publication, operative technique, number of the patient, age of the patients, tumor size, pathology, breast quadrant, multi-focal /multi-centric, distance from the nipple, BMI, operative time, hospital stay, post-operative complications, cosmetic results, positive margins, re-excision, completion mastectomy, follow-up, and recurrence.

Results

There were 110 results eligible for further reviewing. After careful reviewing of those articles, only 15 studies were included, according to the review criteria for analysis, Fig. (1).

Hospital stay fully reported in only studies. There was significant heterogeneity among these studies. The results showed that hospital stay weighted Mean±SD was 2.0±0.5 with 0.9-3.0. Operation duration was reported in eight studies. The results showed that operation duration weighted Mean±SD was 117.8±14.0 with 95% CI 90.4-145.2.

Satisfactory cosmetic effect was reported in fourteen studies, forest plot is resented in Fig. (2). While unsatisfactory cosmetic was also reported in 14 studies The results showed that unsatisfactory cosmetic effect weighted percent was 17.5% with 95% CI 12.2%-24.4%.

Positive margins was reported in fifteen studies. There was significant heterogeneity among these studies, thus we performed the statistics using random-effects model. The results showed that positive margins weighted percent was 12.9% with 95% CI 10.5%-15.7%. Funnel plot is presented in Fig. (3).

Re-excision fully reported in the fifteen included studies. There was significant heterogeneity among

these studies, thus we performed the statistics using random-effects model. The results showed that re-excision weighted percent was 6.1% with 95% CI 3.7%-9.7%. While completion mastectomy was reported in the fifteen included studies. There was significant heterogeneity among these studies, thus we performed the statistics using random-effects model. The results showed that completion mastectomy weighted percent was 3.0% with 95% CI 1.5%-6.0%. Recurrence was reported in the fifteen included studies. There was no significant heterogeneity among these studies, thus we performed the statistics using fixed-effects model. The results showed that recurrence weighted percent was 1.9% with 95% CI 1.1%-3.1%. Total postoperative complications plotted in the Forest plot, Fig. (4).

Postoperative infection was reported in the fifteen included studies. There was significant heterogeneity among these studies, thus we performed the statistics using random-effects model. The results showed that postoperative infection weighted percent was 4.0% with 95% CI 2.9%-5.5%. While Postoperative seroma weighted percent was 6.5% with 95% CI 3.7%-11.4%, and postoperative hematoma weighted percent was 3.8% with 95% CI 2.6%-5.4%. While postoperative wound dehiscence or delayed wound healing, weighted percent was 3.3% with 95% CI 2.2%-5.1%.

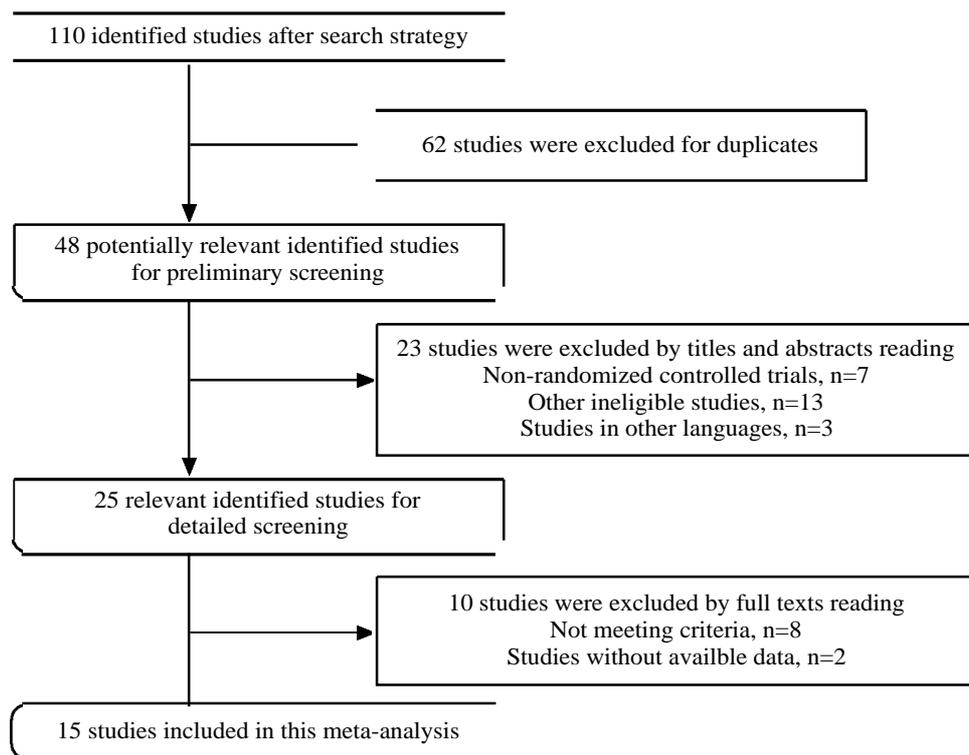


Fig. (1): Flow chart of literature selection.

Table (1): Included studies.

Study / year	Technique	Number	Age (years)	Tumor Size (mm)	Pathology	Breast Quadrant	Multifocal / multi-centric	Distance from nipple (mm)	BMI	Operative time (min)	Hospital stay (days)	Post-Operative Complications	Cosmetic Results	Positive Margins	re-excision	completion mastectomy	Follow-up (months)	Recurrence
1 Kim et al ¹⁴ , 2013	RB without cerclage	92	49.6 ± 9.1	17 5-80	IDC 64 (69.6%) ILC 4 (4.3%) Intraductal 17 (18.5%) Invasive Papillary 3 (3.3%) Metaplastic 1 (1.1%)	Upper breast (UO+UI) = 83.9 %	10 10.8%	20 0-40	23.2 ± 2.5	101.5 55 - 180		Areolar widening = 12 (19.4%) Nipple retraction = 14 (22.6%)	Satisfied / good = 59 (95.2%) Unsatisfied (fair / poor) = 4 (4.8%) fair = 3 (3.6%) poor = 1 (1.1%)	1 (1.1%)	1 (1.1%)		12 (2-36)	0
2 Ogawa ¹⁵ , 2013	RB and MRB	18 11 MRB 7 RB	57.2 41-79			Upper breast (UO+UI) = 11 (61.1%) Central = 7 (38.9%)			189.5 188-191			4 (22.2%) Insufficient blood flow to NAC	3 excellent : 2 MRB / 1 RB / 8 good : 3 MRB / 3 RB fair / poor = 7 (38.9%) fair 5 : 3 MRB / 2 RB poor 2 : 1 MRB / 1 RB excellent / good = 11 (61.1%)	1 (5.6%)	1 (5.6%)		12	0
3 Zaha et al ⁶ , 2013	MRB	40	54 34-75	22 10-40		OOU = 14 (35%) UIQ = 18 (45%) Central = 8 (20%)		52 35-80	130 90-180			3 (7.5%) hematoma	excellent / good = 36 (90%) excellent = 26 (65%) good = 10 (25%) fair / poor = 4 (10%) fair = 3 (7.5%) poor = 1 (2.5%)	5 (12.5%)	4 (10%)	0		0
4 Bramhall et al ¹⁷ , 2017	RB	57	51 22-86	25 10-75	IDC 45 (78.9%) DCIS 4 (7%) ILC 2 (3.5%) Mixed IDC & ILC 3 (5.3%) Other types "malignant phyllodes 1 / borderline phyllodes 1 / medullary 1" = 6 (5.3%)	UOQ = 14 (40%) UIQ = 6 (17.1%) LOQ = 3 (8.6%) LIQ = 3 (8.6%) Central : 9 (25.7%) 35 ??	0					13 (22.8%) "seroma 10 (17.5%) infection 2 (3.5%) wound dehiscence 1 (1.75%)"	31 of 35 "satisfied" excellent / good = 88.6% 4 of 35 fair = 11.4 1 died, 7 mastectomies, 14 missed	12 (21%)	5 (8.8%)	7 (12.2%)	60 (22.8-100.8)	2 (3.3%)
5 Lim et al ¹⁸ , 2017	RB	11	49.9 ±11.7 49 36-73	28.9 ± 17.7 25 12-75	IDC 9 (81.8%) DCIS 2 (18.2%)	UOQ = 8 (72.7%) UIQ = 2 (18.2%) LOQ = 1 (9.09%) LIQ = 0	36.40%	35 19 - 75	25.0 ±4.28 24.5 21.3-36.9	122 ±28.1 123 70-159	55 ±0.93 1 (0-3)	0	excellent / good "satisfied" = 10 (90.9%)	1 (9.1%)	1 (9.1%)	1 (9.1%)	24 (11-29)	0
6 Mohsen et al ⁹ , 2018	RB	60	45.5 ±10.25 46.9 31-60	27 ±12.7	IDC 41 (68.33%) ILC 5 (8.33%) DCIS 12 (20%) Mucinous carcinoma 2 (3.33%)	UOQ = 22 (36.6%) UIQ = 6 (10%) LOQ = 4 (6.6%) LIQ = 8 (13.3%) Upper Central = 11 (18.3%) Inner Central = 6 (10%) Lower Central = 3 (5%)	0	62.5 ±33.6	24.55 ±5.20	120 ±17.68	3.5 ±1.06	"hematoma 3 (5%) infection 2 (3.33%) partial nipple/skin necrosis 1 (1.66%) delayed wound healing 3 (5%) wound dehiscence 1 (1.66%) seroma 8 (13.33%)	excellent / good "satisfied" = 52 (86.7%) fair satisfied 5 and had 3 "unsatisfied" = 8 (13.3%)	12 (20%)	12 (20%)		12 (2-36)	0
7 El atrash et al ¹⁹ , 2019	RB	10	47.40 ± 8.42	18.5 ± 5.23		UIQ = 10 (100%)	0	60.2 ±24.2	169.8 ±29.4	1.60 ± 0.48		2 (20%) Seroma 1 (10%) Hematoma 1 (10%)	excellent / good = 10 (100%) excellent 8 (80%) good 2 (20%) fair / poor = 0 %	0	0	0	3 - 12	0
8 Burrah et al ²⁰ , 2020	RB	270	61 29-90	23.5 4-70	IDC 208 (77%) ILC 19 (7%) DCIS - 33 (12.22%) Other types 9 (3.33%) "Mucinous 4/ Tubular 2/ tubulolobular 1/ metaplastic 1 / mixed mucinous and papillary 1"	UOQ = 138 (51.1%) UIQ = 54 (20%) Upper central = 39 (14.4%) LOQ = 15 (5.6%) LIQ = 18 (6.7%) Central = 6 (2.2%)						total 18 patients 6.6% "hematoma 6 patients 2.2% infection 12 patients 4.4%	40 (14.8%)	24 (8.9%)	14 (5.2%)	39 (18-90)	5 (1.85%) 4 local axillary	

9	Refaat et al ¹ , 2019	MRE	144	48 26-60	20	20	72.6 ±15.2	128.89 ±42.07			16 (11.1%) Hematoma 5 (3.4%) Wound dehiscence 7 (4.8%) Infection 4 (2.7%) Seroma 9 (6.2%)	excellent / good = 128 (88.9%) excellent = 88 (61.1%) good = 40 (27.8%) fair / poor = 16 (11.1%) fair = 4 (2.8%) poor = 12 (8.3%)	2 (1.4%)	2 (1.4%)	10 (2-16)	0
10	Abdulrahman et al ² , 2020	MRE	20	46.5 ±8.41	33.7 ±10.1	0	28.6 ±8.5	164.85 ±48.05	1-3 day	3 (15%) Infection 2 (10%) Nipple necrosis 1 (5%)	excellent / very good / good = 19 (95%) excellent = 11 (55%) very good = 6 (30%) good = 2 (10%) fair / poor / ugly = 1 (5%) fair = 1 (5%) poor = 0 / ugly = 0	0	0	6	0	
11	Ahmed et al ³ , 2020	RB	10	47.9 ±9.85	26 ±8.43	0	31.8 ±7.16	24.59 ±1.58	1.2 ±0.4	2 (20%) hematoma	Excellent / Good = 8 patients (80%) Excellent = 5 (50%) Good = 3 (30%) fair / poor = 2 (20%) fair = 1 (10%) poor = 1 (10%)	0	0	12	0	
12	Kyung In et al ⁴ , 2020	RB	108	50.6 ±8.9		0	55 ±17	50 ±11		12 (11.1%) *seroma 6.5% wound dehiscence 2.8% infection 1.9%*	good "satisfied" = 91 (84.3%) cosmetic problems = 17 (15.7%)			12		
13	Milad et al ⁵ , 2020	RB and MRE	20	50 35-61	23.1 ±5.6	0		RB 89.75 MRB 69.88 Mean81. 8 ±18.41		Seroma 3 (15%) *1 with MRB = 5% 2 with MRB = 10%*	excellent / good = 12 (60%) excellent = 2 (10%) good = 10 (50%) fair / poor = 8 (40%) fair = 7 (35%) poor = 1 (5%)	1 (5%)	1 (5%)	2-3		
14	Menib et al ⁶ , 2021	RB	86	59	26	2	47			14 (16.2%) wound infection = 4 (4.6%) seroma = 8 (9.3%) hematoma = 2 (2.3%)	excellent / good = 47 (74.6%) excellent 26 (41.3%) good 21 (33.3%) fair = 16 patients (23.4%)	2 (2.3%)	2 (2.3%)	24		
15	Zhna et al ⁷ , 2020	MRE	100	54 34-75	23 5-40	0	23 18.7- 38.5			19 (19%) Fat necrosis 11 (11.0%) Hematoma 4 (4.0%) Infection 4 (4.0%)	23 not reported excellent / good = 90 (90%) excellent = 65 (65%) good = 25 (25%) fair / poor = 10 (10%) fair = 6 (6%) poor = 4 (4%)	7 (7%)	5 (5%)	68	0	

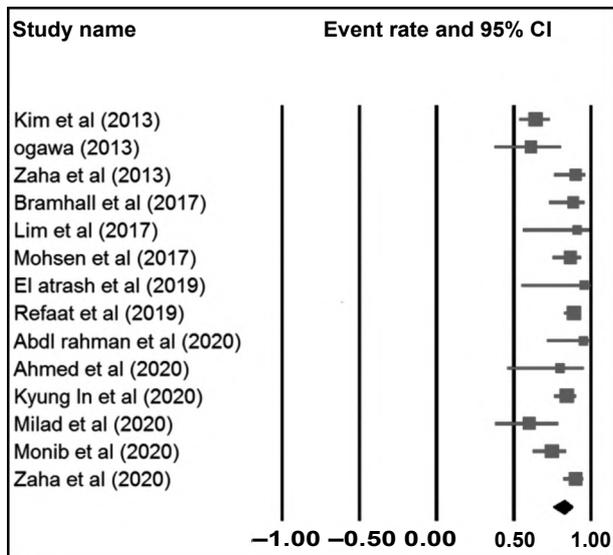


Fig. (2): Forest plot for satisfactory cosmetic effect.

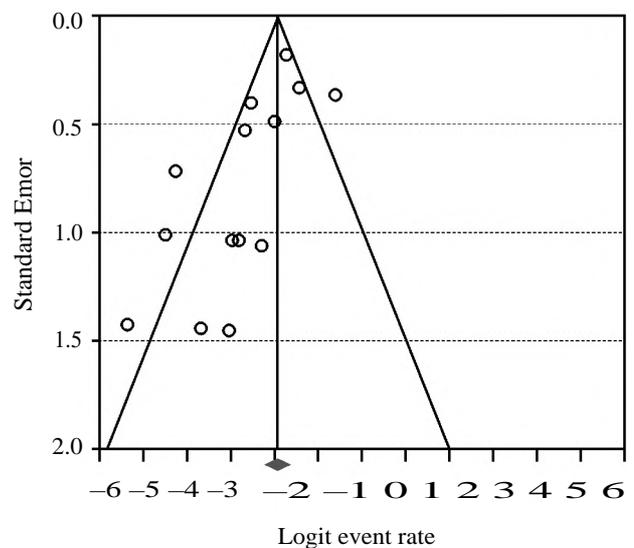


Fig. (3): Funnel plot for positive margins.

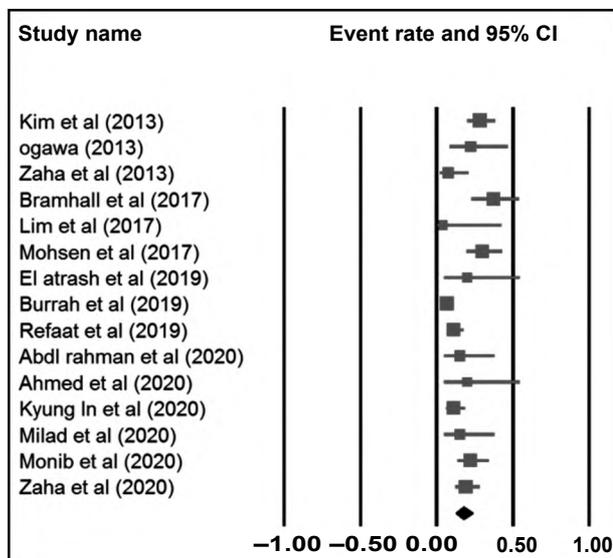


Fig. (4): Forest plot for total postoperative complications.

Table (2): Meta-analysis for Nipple Areola Complex complications.

Study	Total	Frequency	Percent	95% CI	Weight%
Kim et al. (2013)	92	26	28.3%	20.0%-38.3%	9.8%
Ogawa (2013)	18	4	22.2%	8.6%-46.5%	9.0%
Zaha et al. (2013)	40	0	0.0%	0.0%-16.7%	6.0%
Bramhall et al. (2017)	35	0	0.0%	0.0%-18.7%	6.0%
Lim et al. (2017)	11	0	0.0%	0.0%-42.5%	6.0%
Mohsen et al. (2017)	60	1	1.7%	0.2%-10.9%	7.5%
El atrash et al. (2019)	10	0	0.0%	0.0%-44.8%	6.0%
Burrah et al. (2019)	270	0	0.0%	0.0%-2.9%	6.1%
Refaat et al. (2019)	144	0	0.0%	0.0%-5.3%	6.1%
Abdl rahman et al. (2020)	20	1	5.0%	0.7%-28.2%	7.4%
Ahmed et al. (2020)	10	0	0.0%	0.0%-44.8%	6.0%
Kyung In et al. (2020)	108	0	0.0%	0.0%-6.9%	6.1%
Milad et al. (2020)	20	0	0.0%	0.0%-28.7%	6.0%
Monib et al. (2020)	63	0	0.0%	0.0%-11.3%	6.1%
Zaha et al. (2020)	100	0	0.0%	0.0%-7.4%	6.1%
Overall effect			2.4%	0.8%-6.9%	100.0%
Heterogeneity	I^2	78.9%		p -value	<0.001*

CI: Confidence interval. *Significant.

Nipple Areola Complex complications was reported in the fifteen included studies. There was significant heterogeneity among these studies, thus we performed the statistics using random-effects model. The results showed that nipple Areola Complex complications weighted percent was 2.4% with 95% CI 0.8%-6.9%, Table (2).

Discussion

The Round Block technique is one of the commonly used oncoplastic techniques. It's a volume displacement technique of Level II oncoplastic surgery [28]. The main goal of this study was to assess the oncologic and aesthetic outcomes and the post-operative complications after the use of this technique.

After search and reviewing articles, only fifteen papers were eligible for conducting this study. On reviewing literature, we didn't find any meta-analyses dedicated solely for Round Block Technique, some reviews included the round block technique as one of the oncoplastic techniques.

On reviewing the hospital stays, it was nearly 2 days except in the work of Mohsen et al., [10] who showed increase in the stay for about 3.5 days because patients with chronic illness or morbid obesity were admitted 1 or 2 days before surgery. While operation duration was reported to be about 120 minutes in average, except El Atrash et al. 19 and Abdl Rahman et al., [22] who showed an increase in the operative time up to 170 minutes and 165 minutes respectively. This is may be attributed to the early surgeon's learning curve for the procedure.

In the reviewed studies, most of the patients had high satisfactory cosmetic results. The overall percentage from pooled data is 82.5% (95% CI: 75.6% - 87.8%). El Atrash et al., [19] achieved 100% satisfaction with cosmetic results for patients. Patients who were satisfied had an either an excellent or a good cosmetic result on the scales used in that studies. The aesthetic outcome score in El Atrash et al., [19] was by a score based on multiple items that made up a check list to be evaluated by the team and the Multi-Disciplinary Team (MDT) of the breast for every single case. This check list included: the overall shape of the breast, the symmetry of both breasts, the site and direction of the nipple, the volume of the breast and the skin incision shape. 80% of patients had excellent cosmetic while 20% had good cosmetic outcome [19].

As known, there are many ways to evaluate the aesthetic outcome of the breast after any oncoplastic

procedure. Abdl Rahman et al. and Ahmed et al. used the "BREAST-Q survey". Zaha et al., [27] and Milad et al. [25] both used the "Breast Cancer Conservation Treatment. Cosmetic results" (BCCT. Core) and "Breast Retraction Assessment" (BRA) in their studies. While Ogawa [15] used the "Harvard" scale.

The BREAST-Q survey is a patient-reported outcome instrument designed to evaluate outcomes among women undergoing different types of breast surgery [29]. The Breast-Q survey has different modules for different types of breast surgery. Later on, a "Breast-Conserving therapy" (BCT) module was developed. The BCT module measures: Satisfaction with breast, Adverse effects of radiation, Psycho-social well-being, Sexual well-being Physical well-being, Satisfaction with information, Satisfaction with surgeon, Satisfaction with medical team and Satisfaction with office staff [30]. The BCT module provided a good tool for evaluation of quality in breast cancer surgery. It allows improvement of clinical care for breast cancer patients [30].

The Breast Cancer Conservation Treatment. Cosmetic results (BCCT. Core) is software that depends on the photographs taken postoperatively (average one month). Then, it extracts semi-automatically features considered to have impact on the overall cosmetic result like asymmetry, color differences and scar visibility features. It takes measurements and gives out the cosmetic score ranging from poor to excellent [25,31].

Also, The BRA evaluates the cosmetic retraction of the treated breast in comparison to the untreated breast by measuring the deviation of the nipple position in the treated breast compared with the untreated breast [25,31].

The Harvard scale compares the treated breast with the untreated one. It's "excellent" if the two breasts are identical to each other, "good" if there is a slight difference between both breasts, "fair" if there is an obvious difference without distortion and "poor" if the treated breast is seriously distorted [15].

On the other hand, patients with fair or bad cosmetic results were considered unsatisfied. The overall percentage for unsatisfactory cosmetic results was 17.5% (95% CI: 12.2%-24.4%). The highest unsatisfactory result was reported by Milad et al., [25] with a 40% of unsatisfied patients.

It's obvious that tumor site and size have an influence on the cosmetic result. It was noticed

that, in most of the studies, the round block technique was done and more suitable to tumors located in the upper quadrants. After reviewing, Ogawa [15] and Kyung In et al., [24] both didn't prefer the Round Block or the Modified Round Block for the lower quadrants, especially if the tumor-breast ratio is high, as it affects the cosmetic result negatively. Also, if the excised volume is more than 25%, it's better to combine the RBT or the MRBT with other techniques to achieve a better cosmetic outcome.

Unquestionably, achieving tumor-free resection margins is the most important in any cancer surgery. Four studies of El Atrash et al. [19], Abdl rahman et al. [22], Ahmed et al. [23] and Kyung In et al. [14] mentioned that there were no positive margins after excision of the tumor in their studies. The highest percentage for positive margin was mentioned by Bramhall et al., with 34.3%. The overall percentage of positive margins from pooled data is 12.9% (95% CI: 10.5%-15.7%).

As mentioned, the overall percentage of re-excision from pooled data is 6.1% (95% CI: 3.7%-9.7%). The highest percentage for re-excision was mentioned by Mohsen et al., [10] with 20%.

Only four studies, Bramhall et al. [17], Lim et al. [26], Burrah et al. [20] and Monib et al. [26] mentioned that patients underwent completion mastectomy. The highest percentage among them, was mentioned by Bramhall et al. [17] with 20%. The overall percentage of completion mastectomy from pooled data is 3% (95% CI: 1.5%-6%).

From what is demonstrated before, it was noticed that there is a connection between the results of Positive margins, re-excision, and completion mastectomy. Nearly all the Patients who had positive margins underwent re-excision again. Completion mastectomy was done in cases still had positive margins after re-excision.

For example, Bramhall et al., [17] reported 12 patients with positive margins, 5 patients underwent re-excision successfully and other 7 patients underwent completion mastectomy for multiple involved margins. Zaha et al., [16] reported that one patient had positive margins after re-excision who refused further surgery and treated by radiotherapy.

As shown in results, the overall percentage of recurrence from pooled data is 1.9% (95% CI: 1.1%-3.1%). The studies of Bramhall et al., [17] and Burrah et al., [20] were the only ones who reported recurrence.

It's evident that the RB technique had low percentage of complications. The overall percentage of total post-operative complications was 17.2% (95% CI: 12.4-23.4%). Bramhall et al., [17] had the highest percentage with 37.1% while Lim et al., [26] hadn't report any complication among patients of his study. These post-operative complications included: Infection, seroma, hematoma, wound dehiscence or delayed wound healing and nipple-areola complex complications.

For infection, the overall percentage from pooled data is 4% (95% CI: 2.9%-5.5%). The highest percentage was reported by Abdl rahman et al., [22], it was 10%. While the overall percentage of seroma from pooled data was 6.5% (95% CI: 3.7%-11.4%). The highest percentage (28.6%) was reported by Bramhall et al., [17].

As regards hematoma, the overall percentage from pooled data is 3.8% (95% CI: 2.6%-5.4%). The highest percentage was reported by Ahmed et al., [21] which was 20%. The overall percentage of wound dehiscence/ delayed wound healing from pooled data is 3.3% (95% CI: 2.2%-5.1%). Only four studies reported that complication Bramhall et al. [17], Mohsen et al. [10], Refaat et al., [21] and Kyung In et al. [14] the highest among them was Mohsen et al. [10] with a percentage of 6.7%.

The overall percentage of Nipple-areola complex complications from pooled data is 2.4% (95% CI: 0.8 & -6.9%). Only four studies reported that complication. These complications varied between areolar widening and post-operative nipple retraction reported by Kim et al. [14], blood flow insufficiency to the Nipple-areola complex reported by Ogawa [15], partial nipple necrosis reported by Mohsen et al. [10] and Nipple necrosis reported by Abdl rahman et al. [22]. The highest among them was Kim et al. [14] with a percentage of 28.3%.

Conclusion:

Round Block technique is an excellent choice as an oncoplastic technique in patients with early breast cancer with mild to moderate ptosis. It's safe oncologically with a very good aesthetic outcome. Patients underwent that technique had high satisfaction with a low rate of complications.

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دراسة منهجية لاستخدام تقنية الكتلة المستديرة في العلاج الجراحي لحالات سرطان الثدي

شهدت جراحة سرطان الثدي في فترة ما قبل هالستيد علاجات وحشية لسرطان الثدي مثل الكي أو بتر الثدي. كانت عمليات استئصال الثدي قبل القرن التاسع عشر جذرية وعدوانية. وكان هالستد هو أول من قام بإجراء استئصال الثدي الجذري الموثق بوضوح في عام ١٨٨٢، قام بنشر التقنية ووصفها بالتفصيل.

في عام ١٩٤٨ قدم باتي تقنية استئصال الثدي الجذري المعدل، التي ابققت على عضلات الصدر. وفي الثمانينيات من القرن الماضي، تم العمل بجراحة الثدي التحفظية وتبين أن نسب البقاء على قيد الحياة بعد اتباع الجراحة بعلاج إشعاعي مساعد كان مساوياً لعملية استئصال الثدي. وأيضاً جودة الحياة تكون أفضل بعد الحفاظ على الثدي بالمقارنة مع استئصال الثدي.

تم إدخال جراحة الأورام التجميلية للثدي لأول مرة في أوائل التسعينات، حيث تم الجمع بين مبادئ جراحة الأورام وتقنيات الجراحة التجميلية. كان الهدف هو تحسين النتائج التجميلية على المدى الطويل. تم إدراك أنه يمكن الحفاظ على حجم الثدي وشكله وتمائه أثناء استئصال ما يصل إلى ٥٠٪ من حجم الثدي دون ترك أي أنسجة بها أورام. منذ ذلك الحين، كان هناك توسع هائل في عدد التقنيات المتاحة. تنقسم التقنيات بشكل عام إلى مجموعتين: إزاحة الحجم واستبدال الحجم. إحدى تقنيات الإزاحة هي تقنية الكتلة المستديرة.

تقنية الكتلة المستديرة هي إجراء فريد لاستئصال الثدي، ابتكره لويس بينيللي في عام ١٩٩٠، حيث تتم إزالة أنسجة الثدي وإعادة تشكيل الثدي من خلال شقين دائريين متوازيين حول الحلمة بالكامل. بالنسبة لمرضى سرطان الثدي فإنه ميزة الندبة غير الواضحة بعد الجراحة.

وهذه دراسة منهجية باستخدام تقنية الكتلة المستديرة في العلاج الجراحي لحالات سرطان الثدي. وهي دراسة إحصائية تضمنت ١٥ بحث عن استئصال الكتلة المستديرة كعلاج لأورام الثدي وتم عمل تحليل إحصائي لنتائج هذه الدراسات وقد تبين أن تقنية الكتلة المستديرة اختيار ممتاز لحالات سرطان الثدي المبكرة مع سقوط الثدي البسيط والمتوسط وأنه آمن ولديه نتائج تجميلية جيدة وأن هؤلاء المرضى الذين أجروا هذه التقنية لديهم معدل رضا عالي ومعدلات أقل للمضاعفات بعد العملية.