

A CLINICAL STUDY ON POST OPERATIVE COMPLICATIONS AFTER MODIFIED RADICAL MASTECTOMY IN GGH ANATHAPUR

1. DR. K. V. MADHUSUDHAN, MS, ASSISTANT PROFESSOR OF SURGERY, GGH, ANANTHAPUR, AP, INDIA MADHUJWALA@GMAIL.COM, 9493344388
2. DR. B. UJJANESWARI, MS, ASSISTANT PROFESSOR OF SURGERY, GGH, ANANTHAPUR, AP, INDIA, DRUJINESWARI@GMAIL.COM, 7032937603
3. DR. VURITI MRUDULA KUMARI, MS, MCH PEDIATRIC SURGERY ASSISTANT PROFESSOR OF SURGERY, GGH, ANANTHAPUR, AP, INDIA, MRUDULAVURITI@GMAIL.COM, 8903181659

CORRESPONDING AUTHOR: DR. VURITI MRUDULA KUMARI, MS, MCH PEDIATRIC SURGERY ASSISTANT PROFESSOR OF SURGERY, GGH, ANANTHAPUR, AP, INDIA

ABSTRACT

Introduction: Breast carcinoma management is multidisciplinary with surgery, radiotherapy, and hormonal therapy, and chemotherapy.¹ However, surgical management is the hallmark of the treatment of breast carcinoma. "Modified radical mastectomy" is the most commonly employed surgery.² Complications contribute to morbidity, prolong the hospital stay, cost, and interfere with the management of breast cancer. E- operative evaluation, meticulous techniques, hemostasis, and wound closure can decrease complications. **Aims & Objectives:** To study the postoperative complications of Modified radical mastectomy, To identify the triggering factors of and to know the preventive and treatment modalities for complications. **Patients and Methods:** Prospective observational study on 100 Patients diagnosed with breast carcinoma that undergo Modified radical mastectomy in the Department of General Surgery at a GGH Anathapur over a period of one year. **Conclusion:** Seroma formation (18%), surgical site infection were common complications. The patient's age, obesity, diabetes, electrocautery dissection, and early removal of drain were found as risk factors for seroma formation.

Key Words: Carcinoma Breast, Mastectomy, Seroma, Electro Cautery

INTRODUCTION

Over 2.3 million females were diagnosed with breast carcinoma and 685 000 deaths globally in 2020. Woman dies from breast cancer, mainly because of wide spread metastasis.³ The modern approach to breast carcinoma management is multidisciplinary; including surgery, radiotherapy, and hormonal therapy, and chemotherapy.¹ However, surgical management is the hallmark of the treatment of breast carcinoma. "Modified radical mastectomy" is the most commonly employed surgery for breast carcinoma.²

Early surgery complications are defined here as complications occurring within 1 month after surgery, include wound infection, seromas, altered sensation along the anterior axillary fold, wound dehiscence, flap necrosis, and hematomas. Based on different surveys, surgical site complications after breast surgeries are 0.8 to 26% wide-ranging incidence.^{4,5}

Seroma formation is the most frequent postoperative complication with an incidence of 3% to 85%.⁶ Infection developing within seroma increases morbidity and often results in the need for readmission, reimaging, drainage, and antibiotic usage.⁷ Incidence rates of Postoperative wound infections vary and range from 3% to 19%. The incidence of Flap necrosis is between 3% and 32%.⁸ Incidence of functionally significant lymph edema is <10%. Thorough pre-operative evaluation, meticulous techniques, hemostasis, and wound closure can decrease complications.

RESULTS

Table 1: Distribution of Cases By Age

Age	No of Cases	Percentage
41 – 50	30	30
51 – 60	46	46
61 – 70	24	24
Total	100	100
Mean ± SD 50.31 ± 7.91		

In the present study 63% of the patients had BMI between the 18.6 – 24.9kg/m² and 28% of the patients had 25-29.9kg/m² and 7% of the patients' ≥ 30kg/m², 2% of the patients less than 18.5 kg/m². The mean and standard deviation of the patient's BMI were 24.27kg/m² and 3.56, respectively.

In the present study, 20% patients were Diabetic, 8% hypertension, and 6% had both hypertension and diabetes. Mean and standard deviation of Hb value was 10.67gm/dl and 1.39, respectively. 49% patients were found to be right- sided tumor. The mean tumor size and standard deviations were 5.15cm and 2.17cm, respectively.

In this study, 41% of the patients were treated by neoadjuvant chemotherapy. The mean duration of surgery and standard deviation were 124.85minutes and 19.29minutes, respectively. In this study, 50% of the usage of electrocautery during surgery and 50% of scissor usage to dissect the tissue during surgery.

Table 2: Comparison Of Complications With Risk Factors OnPOD 4

		No	Seroma	FN	WD	SSI	AS	Hematoma
Age (Yrs)	<50	7	3	0	0	2	1	1
	>50	13	8	1	1	0	2	1

BMI(Kg/m ²)	<25	8	1	1	1	1	3	1
	25-30	8	6	0	0	1	0	1
	>30	4	4	0	0	0	0	0
DM		5	3	0	1	0	0	1
HTN		3	3	0	0	0	0	0
DM+ HTN		4	3	1	0	0	0	0
Duration of Surgery (Min)	<150	19	10	1	1	2	3	2
	>150	1	1	0	0	0	0	0
Dissection device	EC	15	13	0	1	1	0	0
	SC	9	2	1	0	1	3	2
Total drain output(ml)	<500	1	1	0	0	0	0	0
	500 - 1000	18	10	1	1	2	2	2
	>1000	1	0	0	0	0	1	0
Drain removal day(days)	<10	3	1	0	0	0	2	0
	10-15	17	11	1	1	1	1	2
	>15	4	3	0	0	1	0	0
lymph nodes removed	Nil	0	0	0	0	0	0	0
	<15	9	5	1	1	0	1	1
	>15	15	10	0	0	2	2	1

Table 3: Comparison Of Complications With Risk Factors On POD - 10

		No	Seroma	FN	WD	SSI	AS	Hematoma
Age(yrs)	<50	8	4	2	0	2	0	0
	>50	14	3	0	2	9	0	0
BMI(kg/m ²)	<25	6	3	0	0	3	0	0
	25 - 30	11	3	2	2	4	0	0
	>30	5	1	0	0	4	0	0
DM		11	1	1	1	8	0	0
HTN		0	0	0	0	0	0	0
DM + HTN		3	0	1	1	1	0	0
Duration of surgery (min)	<150	16	7	2	2	5	0	0
	>150	6	0	0	0	6	0	0
Dissectio	EC	9	2	2	1	4	0	0

ndevice	SC	9	1	0	1	7	0	0
Total drain output(ml)	<500	5	0	0	1	4	0	0
	500 - 1000	16	7	2	1	6	0	0
	>1000	1	0	0	0	1	0	0
Drain removal day(days)	<10	3	2	1	0	0	0	0
	10-15	9	1	0	2	6	0	0
	>15	6	0	1	0	5	0	0
Lymph nodes removed	Nil	0	0	0	0	0	0	0
	<15	6	1	1	1	3	0	0
	>15	12	2	1	1	8	0	0

Table 4: Comparison Of Complications With Risk Factors On POD - 28

		No	Seroma	FN	WD	SSI	AS	Hematoma
Age(yrs)	<50	2	0	0	1	0	1	0
	>50	1	0	0	1	0	0	0
BMI(kg/m ²)	<25	1	0	0	0	0	1	0
	25 - 30	1	0	0	1	0	0	0
	>30	1	0	0	1	0	0	0
DM		1	0	0	1	0	0	0
HTN		0	0	0	0	0	0	0
DM + HTN		0	0	0	0	0	0	0
Duration of surgery (min)	<150	2	0	0	1	0	1	0
	>150	1	0	0	1	0	0	0
Dissection device	EC	1	-	-	1	-	-	-
	SC	2	-	-	1	-	1	-
Total drain output(ml)	<500	1	0	0	1	0	0	0
	500 - 1000	1	0	0	0	0	1	0
	>1000	1	0	0	1	0	0	0
Drain removal day(days)	<10	1	0	0	1	0	0	0
	10-15	2	0	0	1	0	1	0
	>15	0	0	0	0	0	0	0
Lymph nodes removed	Nil	0	0	0	0	0	0	0
	<15	3	0	0	1	0	0	0
	>15	0	0	0	1	0	1	0

DISCUSSION

Seroma Formation: In the present study, seroma was the most common complication found with an incidence of 18%; this was in the range of other studies like Altinyollar H et al⁹ with 15.5% and Bhatti I et al¹⁰ with 20%, and Dahri FJ et al¹¹ with the 33.33%. On the contrary, Kuroi K et al¹² quoted that existing evidence was inconclusive for seroma formation.

Hematoma:

In the present study, hematoma developed in 2 patients (2%). In Obadiel Y A et al¹³ studies, hematoma was found in one case (2%). This is comparable with the Rajiv Sharma et al¹⁴ studies in which bleeding was found more with scissor dissection and post-operative development of a hematoma.

Altered Sensation: In this study, altered sensation along the anterior axillary fold was found in 4 patients. Couceiro et al¹⁵ study explained why occurring in the younger group, as increased nerve sensitivity and lower threshold due to anxiety and more aggressive nature of breast carcinoma needs aggressive surgical treatment.

Surgical Site Infection (SSI): This study found SSI in 2 patients on the 4th postoperative day and 11 patients on the 10th postoperative day. Surgical site infection was found in 13 cases (13%). In the study conducted by Chandrakar N et al¹⁶ SSI were found in 10 cases (24.39%). Obadiel Y A et al¹³ studies were found in 14 patients (28%).

Flap Necrosis: In this study, flap necrosis was found in 3 cases (3%), one case on the 4th postoperative day and 2 cases on the 10th postoperative day. Flap necrosis was observed with a higher BMI in this study. Robertson SA et al¹⁷ study found higher BMI was the risk factor.

CONCLUSION

- Seroma (18%) was the most common early postoperative complication. It is due to multiple risk factors like increased age, higher BMI and comorbidities, early drain removal and excessive lymphatic dissection, and electrocautery dissection without ligation of lymphatic vessels.
- Surgical site infection (13%) is the next common complication, and risk factors are older age group, diabetes, and prolonged drainage.
- Wound dehiscence (5%) occurs in older people with diabetes and seroma formation with infection cases.
- Flap necrosis (3%) can be seen in higher BMI, diabetes and hypertension, electrocautery dissection.

- Hematoma and altered sensation along the anterior axillary fold complications are less than other complications.

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