

Role of Octreotide in Decreasing Lymphorrhea after Axillary Node Dissection In Patients Undergoing Modified Radical Mastectomy

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Abstract

Lymphorrhea is an early complication of Axillary Lymph Node Dissection (ALND) with incidence of 5 to 80 %. It is formed by ultrafiltration of blood and has multifactorial etiology like severed vessels due to cautery and surgically created dead space. It causes morbidity in form of drainage and increases the risk of infection and wound dehiscence. We conducted a randomized control study in which we included the patients of carcinoma breast undergoing Modified Radical Mastectomy in which the patients were randomized into two groups -Group A: Patients who did not receive octreotide after MRM and Group B: Patients who received octreotide after MRM (100 µg s/c 8 hourly for 5 days). Outcomes were measured as Lymphorrhea volume from 24 hours to the first 5 days and No. of days until axillary drain removal. We found out that the amount of lymphorrhea and the duration of stay was less in the patients who received octreotide. Thus, We concluded that the use of octreotide is advantageous in terms of duration of lymphorrhea and its amount and the hospital stay.

Keywords: Lymphorrhea, MRM, Axillary lymph node dissection (ALND), Octreotide

Date of Submission: 04-09-2022

Date of Acceptance: 19-09-2022

I. Introduction

Breast cancer is a major public health problem for women throughout the world. The breast cancer incidence rate, over the 5-year period 2012-2016, increased slightly by 0.3% per year whereas the breast cancer death rate continues to decline, dropping 40% from 1989 to 2017 and translating to 375,900 breast cancer deaths averted.¹

Young age has been associated with larger tumor size, higher number of metastatic lymph nodes, poorer tumor grade, low rates of hormone receptor-positive status, earlier and more frequent loco regional recurrence and poorer overall survival.²

Breast cancer management has evolved over the years from the radical extirpation of the previous century, involving loss of the breast, skin and underlying muscle, to current practice which aims at breast preservation.³

Despite the emergence of breast conservation techniques, modified radical mastectomy still remains the most commonly performed surgery for the breast cancer today. Axillary lymph node dissection for local control of nodal disease is an integral part of modified radical mastectomy. Lymphorrhea is a serious and disabling complication of axillary lymphadenectomy, but no effective therapy is currently available.⁴ Lymphorrhea adds to morbidity in the form of prolonged drainage and can also significantly impact treatment by delaying adjuvant therapy and increasing the risk for infection. Various techniques tried in the past with limited success include using fibrin glue application, suturing skin flaps with underlying flaps, lantreotide autogel, tranexemic acid and suction drain placement.⁵

Octreotide is a hormone with general anti-secretory effects and has been classically used in the treatment of portal hypertension, oesophageal variceal bleed, VIPoma, carcinoid tumors and pancreatic fistulas. Common adverse events noted after using octreotide is gallbladder dyskinesia, cholestatic hepatitis, dysglycemia, hypothyroidism and bradycardia.⁵

Based on this octreotide might have a potential role in the treatment of lymphorrhoea after axillary lymph node dissection in patients undergoing modified radical mastectomy.

II. Material And Methods

The proposed study was a randomized control study that was conducted in the Department of General Surgery in a tertiary care center of North India from February 2020 to March 2021. Over a period of 13 months, only 26 patients (20 cases and 6 control) were included in study due to COVID pandemic. All female patients undergoing Modified Radical Mastectomy having unilateral carcinoma breast (Stage I/II/III) were included in the study. The patients having hypersensitivity to octreotide injection, metastatic carcinoma breast and bilateral carcinoma breast were excluded from the study. The patients(26) were divided into two groups- A(6 patients who did not received octreotide) and B(20 patients who received octreotide). In the post operative phase, Group A received standard care for Modified Radical Mastectomy and Group B (octreotide group) received octreotide (after checking hypersensitivity) 100µg s.c. 8 hourly for 5 days along with standard care for Modified Radical Mastectomy from day zero. The Lymphorrhoea volume from 24 hrs to the first 5 days was recorded along with the incidence of seroma formation, duration of lymphorrhoea and the duration of hospital stay.

III. Observations

We compared the two groups in terms of total lymphorrhoea volume, duration of lymphorrhoea, duration of hospital stay and the seroma formation. Mostly patients were having amount of lymphorrhoea in a range from 30 ml to 900 ml and higher in control group. The difference in the amount of lymphorrhoea in octreotide group and control group was not significant statistically (p value = 0.465). The difference in the duration of lymphorrhoea in the two groups was found to be statistically not significant (p value = 0.657) but was higher in the control group. There was a significant difference between the 2 groups in terms of duration of hospital stays (days) ($W = 99.000$, $p = 0.014$), with the median duration of hospital stay (days) being highest in the Group: A (11 days). Seroma which needed intervention (aspiration > 50ml) were taken into consideration. It was seen in 4 patients out of total 26 patients. There was a significant difference in Seroma formation ($\chi^2 = 15.758$, $p = 0.001$).

IV. Discussion

A randomized controlled study was done to study the effect of octreotide in decreasing the amount and duration of lymphorrhoea.

1) MAGNITUDE OF LYMPHORRHEA: Magnitude of lymphorrhoea is considered as an important factor in post-operative morbidity and complication of patients undergoing MRM. In this study the magnitude of lymphorrhoea was measured from post-operative day 1, till drain output decreased less than 30 ml per day and after that drain was removed.

The mean magnitude of lymphorrhoea in the control group was 454.17±230.36 ml and in the octreotide group 447.25±132.16 ml. The mean magnitude was observed to be less in octreotide group, however on statistical analysis it was not significant (p -value=0.465). Its significance can be proved in larger studies.

2) DURATION OF LYMPHORRHEA: No. of days taken to remove drain was considered as duration of lymphorrhoea. In this study the duration of lymphorrhoea in control group was 2.17±2.40 days and in the octreotide group it was 1.32±.58 days. Difference was found to be statistically not significant (p value=0.657) and was higher in control group. Its significance can be proved in larger studies.

3) DURATION OF HOSPITAL STAY: The duration of stay in our study was 11.33±4.32 days in the control group and 7.65±0.99 days in the octreotide group ($p = 0.014$).

In our study the significant difference can be attributed to the effect of octreotide on duration of lymphorrhoea. Decreased amount of lymphorrhoea will lead to early drain removal and so early discharge from the hospital decreasing the duration of hospital stay.

4) SEROMA FORMATION: All the patients in our study were followed up for a minimum period of 15 days after the discharge and the ones who developed seroma were being followed up further until the seroma resolved. In our study, 4 (66.7%) out of 6 in the control group and 0(0%) out of 20 in the octreotide group were found to develop seroma and aseptic aspiration was done. Qualitative analysis was done and P value was found to be very significant statistically (p value=0.001).

The results of our study are in agreement with above studies in terms of incidence of seroma formation and we believe that octreotide can also be used as a chemical method to reduce seroma formation.

V. Conclusion

The following conclusions were drawn:

1. The amount of lymphorrhoea was lesser in the octreotide group as compared to the control group but was not statistically significant. Hence, it can be concluded that octreotide has some effect on decreasing the amount of lymphorrhoea but not upto the statistical significance.
 2. The duration of lymphorrhoea was lesser in the octreotide group than the control group but was not statistically significant.
 3. The duration of hospital stay was lesser in the octreotide group than the control group and was found to be statistically significant.
 4. The incidence of seroma formation in the octreotide group was significantly lower than the control group so it can be concluded that octreotide might have a role in reducing the seroma formation.
- So, we recommend octreotide use, further a larger series is required for more definitive results.

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Dr. Anmol Galhotra, et. al. "Role of Octreotide in Decreasing Lymphorrhoea after Axillary Node Dissection In Patients Undergoing Modified Radical Mastectomy." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 21(09), 2022, pp. 46-48.