

Chest Wall Resection and Reconstruction for Locally Advanced Breast Cancer: Multidisciplinary Approach of Patient-centered, Team Based Care

MA Aizat, WL Yin, Diong NC, Mathew T

Department of Surgery, Hospital Sultan Ismail Johor

Introduction

Breast cancer remains one of the most prevalent malignancies worldwide which lead up to 685000 globally in 2020. Locally advanced breast cancer (LABC) in particular presents a formidable clinical challenge (1). The management of LABC necessitates a multifaceted approach, incorporating a range of treatment modalities including chemotherapies, physiotherapies, surgery and rehabilitation. The intricacies and nuances that envelope the management of LACB, particularly when chest wall involvement necessitates surgical intervention, are explored here with the ultimate aim of illuminating the experiences of patients and challenges faced by the medical community.(2) This study lends itself to an in-depth examination of the multidimensional approach required for LABC and the importance of patient-centered, team-based care

Case Summary

A 44-years-old Malay women presented with an 8 month history of right breast lump, accompanied by loss of appetite and weigh. Following comprehensive investigation, patient was confirmed to have Triple Negative Right Invasive Breast Cancer T4N2M1. After multiple session of MDT discussion, the patient underwent an eight-cycle neoadjuvant chemotherapy aiming to downsize the tumor. However, after completing the sixth cycle, the tumor showed minimal response despite the aggressive regime of chemotherapy. We decided to proceed for a radical right mastectomy, 3rd to 6th rib resection. Partial sternectomy and axillary clearance, followed by chest wall reconstruction with rib plating and transverse abdominis muscle myocutaneous flap. She was admitted early for pulmonary rehabilitation and nutrition supplement. A detailed discussion among anesthetist, breast, plastic and thoracic surgery team was made to optimize preoperative care and to draw a unanimous goal of management. A 3-dimension CT recon was done to ease the planning and explaining to the patient. Intraoperatively she was placed in supine position under single lumen intubation general anesthesia. A meticulous surface marking was made to define the incision site where the macroscopic margin was kept at least 3cm from the tumor (Figure 1). The breast and thoracic surgeon preformed the radical mastectomy with chest wall resection and the tumor was removed en-bloc with 3rd – 6th rib and partial sternectomy. The plastic team harvested myocutaneous flap from transversus abdominis muscle followed by rib plating preformed on 4th and 6th ribs, and closure with flap (Figure 2). A chest drain placed at intrapleural and two drain placed beneath the flap. Following the operation patient was intubated for 3 days and extubated well. Once extubated patient underwent aggressive pulmonary rehabilitation and was discharged well after few days of monitoring.



Figure 1 : Multiple marking done preoperatively by Breast, Thoracic and Plastic team



Figure 2: Defect after removal of tumor, and after flap done to cover the defect



Figure 3 : Patient condition during follow-up 1 month post operation

Discussion

The management of locally advanced breast cancer (LABC) is a complex undertaking that demands a holistic and multidisciplinary approach. In this case, who presented with a locally advanced breast tumor invading the chest wall, exemplifies the challenges and intricacies involved in providing comprehensive care to such patients. (3,4) This discussion will dissect key aspects of this case, as well as the broader implications for the management of LABC. Proper communication and teamwork between the team involved is very crucial to ensure the best outcome for patient in the type of cases. Failure to communicate will result in disastrous outcome. In this case at least more then 8 team was involved and fluid communication and discussion between the team result in best outcome for the patient

Conclusion

The complexities and nuances surrounding the management of locally advanced breast cancer are clearly delineated in this case. This case write-up serves as a testament to the challenges that both patients and the medical community face in the battle against LABC. The importance of patient-centered, team-based care is illuminated, calling for continuous efforts to improve strategies and outcomes for these patients

Reference

1 Hortobagyi GN, Pritchard K, Amadori D, Haidinger R, Hudis CA, Khaled H, Liu MC, Martin M, Namer M, O'Shaughnessy JA, Shen ZZ, Albain KS, ABREAST Investigators (2005) The global breast cancer burden: variations in epidemiology and survival. Clin Breast Cancer 6:391–401
2. Hathaway CL, Rand RP, Moe R, Marchioro T (1994) Salvage surgery for locally advanced breast cancer and locally recurrent breast cancer. Arch Surg 129:582–587
3. Veronesi G, Scanagatta P, Goldhirsch A, Rietjens M, Colleoni M, Pelosi G, Spaggiari L (2007) Results of chest wall resection for recurrent or locally advanced breast malignancies. Breast 16:297–302
4. Chen KN, Yu P (2006) Significance of multidisciplinary surgery in chest wall resection and reconstruction for selected patients with breast cancer. Zhonghua Zhong Liu Za Zhi 28:856–859