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Conservation Rates of Breast and Axilla Indicate the Quality of Surgical Management of the Early-Stage Breast Cancer Patient

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ABSTRACT

Background: Multidisciplinary care in quality-assured specialized Brest Centre (BC) is nowadays considered optimal management of breast cancer and is associated with better patient outcomes. Modern breast cancer surgery should provide optimal oncological outcomes and preserve the quality of life. European Society of Breast Cancer Specialists (EUSOMA) set up the minimum requirements for a specialized BC and a set of 15 mandatory quality indicator (Q.I.) benchmarks for BC certification purposes. Six Q.I. are intended for breast cancer surgery quality assessment.

Methods: In BC of Clinical Hospital Centre Rijeka, data were collected retrospectively for 2019 and prospectively thereafter in a clinical register, encrypted according to the EUSOMA instructions and uploaded into collective EUSOMA database. Following database validation, all Q.I. were calculated for our BC for 3 consecutive years. In addition, a comprehensive on-site audit was performed in 2021 for all services included in breast cancer management in Rijeka.

Results: All mandatory surgical Q.I. were above the EUSOMA benchmarks in all 3 years. Non-compliance with EUSOMA recommendations were reported as major, minor, recommendations and observations. For BC surgical department, no major or minor non-conformities were reported. At the national level, mastectomy rates were above the permitted EUSOMA benchmark in 4 consecutive years.

Conclusion: We have voluntarily initiated and performed quality control of our BC. The certificate obtained is a confirmation of the high quality of care. Concerning the mastectomy rate in Croatia, other centres should consider quality evaluation to determine the status of detected suboptimal surgical management.

INTRODUCTION

Breast cancer is the most common malignant disease affecting females. One in ten women in Europe is diagnosed with breast cancer in her lifetime. Due to the implementation of national screening programs, as well as improved women's health awareness, the majority of breast cancer cases are nowadays diagnosed in the early stage of the disease, thus leading to an excellent prognosis if managed appropriately. Multidisciplinary care in the quality-assured specialized Breast Centre (BC) is associated with the best oncological outcomes,[1-3] and is considered optimal management of breast cancer patients.[4] European Society of Breast Cancer Specialists (EUSOMA) set up the minimum requirements for a specialized BC,[5] as well as a set of 15 mandatory quality indicators (Q.I.)

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for certification purposes and quality comparison between different centres.[6] BC's surgical department is defined with a minimum of 150 procedures for newly diagnosed breast cancers and at least 2 breast surgeons employed by the BC. In addition, 6/15 mandatory Q.I. evaluate surgical management, primarily the appropriateness of surgical indication and the quality of surgical technique. Every Q.I. represents a recommendation for the optimal management, and the associated benchmark is the permitted level of deviation from the clinical guidelines. This paper aims to report the quality of breast cancer surgical management in the first certified BC in Croatia, evaluating with six mandatory EUSOMA Q.I. in 3 consecutive years and comparing the data with the proposed benchmarks. The surgical Q.I. available at the national level was compared to the EUSOMA benchmark as well.

METHODS

In BC of Clinical Hospital Centre (CHC) Rijeka, data were collected retrospectively for 2019 and prospectively thereafter in a clinical register, encrypted according to the EUSOMA instructions and uploaded into the collective EUSOMA database. Data collection in a prospective register was approved by the institutional ethics committee. Following database validation, all Q.I. were calculated for BC of CHC Rijeka for 3 consecutive years. In addition, a comprehensive on-site audit was performed in 2021 for all services included in breast cancer management in CHC Rijeka. Data of the Breast Working Group Registry, Croatian Society of Pathology (2017-2020) was used for the determination of the annual Q.I. 5 values at the national level.

RESULTS

All mandatory surgical Q.I. calculated for BC of CHC Rijeka were above the EUSOMA benchmarks in all 3 consecutive years (Table 1).

Following the on-site audit, non-compliance with EUSOMA recommendations were reported and categorized as major, minor, recommendations and observations. For BC surgical department, three recommendations and one observation were recorded (Table 2). However, no major or minor non-conformities were noticed.

At the national level, calculated annual Q.I.5 values were significantly below the minimum of EUSOMA requirements in all 4 years (58%, 59%, 66% and 63%).

DISCUSSION

Quality assessment represents the comparison of routine clinical practice with the evidence-based guidelines for optimal management. The quality of surgery is determined by the appropriate selection of the optimal procedure, as well as by the quality of performance. Although several population-based studies suggest inferior survival for mastectomy patients when compared to breast conservation,[7-12] radical procedures, both in breast and axilla, are not considered inferior to the conservative approach in terms of oncological outcomes.[13-15] However, due to their significant morbidity,[16] and the adverse impact on the quality of life,[17] these procedures are not recommended for the management of early breast cancer patients. Modern breast cancer surgery should provide the highest level of quality of life for breast cancer survivors in addition to optimal oncological outcomes and mastectomy, with or without breast reconstruction, should no longer be offered as an option to the early-stage breast cancer patient without solid oncological indication. High rates of both mastectomy and axillary clearance (evaluated by Q.I. 5, 6, 7 and 12), indicate suboptimal surgical management, as well as the high rates of re-intervention following breast conservative surgery (evaluated by Q.I. 10 and 11), represent suboptimal surgical technique.

Herein, we have presented the results of quality evaluation of the surgical department at our BC in Rijeka, Croatia. The results are expressed as rates of EUSOMA proposed Q.I., calculated for our department in 3 consecutive years and compared with the defined benchmarks.

The results indicate continuous, high-quality surgical management of patients in BC of CHC Rijeka. Higher rates of breast conservation, compared to

Table 1. EUSOMA quality indicator in Clinical Hospital Center Rijekta

EUSOMA Quality Indicator (Q.I.)	Min (%)	target	2019	2020	2021
Q.I.5 Invasive Ca <=3cm treated with BCS	70	85	96	92	97
Q.I.6 In situ Ca <=2 cm treated with BCS	80	90	94	90	100
Q.I.7 DCIS with no axillary clearance	97	99	100	100	100
Q.I.10 Invasive Ca receiving just 1 operation	80	90	90	89	95
Q.I.11 DCIS receiving just 1 operation	70	90	78	100	91
Q.I.12 SLNB in cN0 invasive Ca	90	95	97	97	92

Table 2. EUSOMA classification, recommendations, observation and positive aspects

Audit Report (8-9/7/2021)	Breast Centre Rijeka	Dpt. of Breast Surgery
Major non-conformities	7	0
Minor non-conformities	8	0
Recommendations	3/7	A medical photograph of the breast should be available to decide the best surgical strategy for every patient Breast Centers should collect data and yearly monitor the functional outcomes The Breast Centre should comply with Q.l. 14 (<=5 lymph nodes/SLNB)
Observations	1/6	The audit team observed that the Breast Centre has not yet started to collect and analyze validated patient-reported outcomes (PROs) using validated measurements (patient-reported outcome measures, PROMs).
Positive aspects	1/3	The audit team congratulates the surgeons on joint working arrangements and their desire to learn new techniques despite the pandemic

EUSOMA Q.I. 5 and 6 benchmarks, are achievable with oncoplastic techniques, with no adverse impact on oncological outcomes, patient satisfaction or re-intervention rates.[18]

However, Q.I.5, the only available Q.I. at the national level is continuously below the proposed benchmark, revealing suboptimal patient management in Croatia. The recognition of any deviation in clinical practice is the first step toward its improvement. Uniform comprehensive institutional and national databases are essential for quality control and identification of non-compliance with the guidelines. Additional clinical data are required to determine the status of sub-optimal breast cancer surgical management identified in Croatia.

CONCLUSION

Implementation of quality assessment is one of the factors associated with better patient outcomes. We have voluntarily initiated and performed quality control of our BC. The certificate obtained is a confirmation of the high quality of care. Concerning the latest reports of breast cancer mortality rates in Croatia,[19] as well as the high mastectomy rate in early-stage breast cancer surgery, all centres involved in breast cancer management should consider quality evaluation as well.

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CONFLICT OF INTEREST

The authors have no conflict of interest to declare.

ETHICAL CONSIDERATIONS

The protocol of the study was approved by the institutional ethics committee in a prospective register.

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