Are Breast Cancer Outcomes Compromised by General Surgical Resident Participation in the Operation?

Abraham M. Tsigonis, MD,[*,†] Jeffrey Landercasper, MD,[‡,§] Mohammed Al-Hamadani, MBChB, MPH,[‡] Jared H. Linebarger, MD,[*,§] Choua A. Vang, BS,[‡] Jeanne M. Johnson, MD,[*,§] Edward Marchese, BS,[‡] Kristen A. Marcou,[§] and Jane M. Hudak, RHIT[§,‖]

[*]Department of Surgery, Gundersen Health System (GHS), La Crosse, Wisconsin; [†]Department of Medical Education, Gundersen Medical Foundation (GMF), La Crosse, Wisconsin; [‡]Department of Medical Research, GMF, La Crosse, Wisconsin; [§]Norma J. Vinger Center for Breast Care, GHS, La Crosse, Wisconsin; and [‖]Department of Clinical Data Services, GHS, La Crosse, Wisconsin

OBJECTIVE: The effect of surgery resident participation on breast cancer recurrence has not been previously reported. The objectives of this study were to determine if resident participation was associated with either immediate postoperative or long-term breast cancer outcomes.

DESIGN: We retrospectively reviewed a prospectively collected breast center database to identify all patients with breast cancer undergoing surgery in a single center during a 9-year period ending 1 January 2010. Patients were divided into 2 groups based on whether surgery residents completed more than 50% of the critical portions of the case (Resident group) or not. The outcomes of operation length, reoperative rates, morbidity, and the long-term outcomes of cancer recurrence were compared by group. Comparisons of immediate postoperative outcomes were made with chi-square and Fisher exact tests. Comparisons of operation length were analyzed by Wilcoxon rank-sum testing. Survival analyses were calculated using the Kaplan-Meier method with log-rank comparison. Multivariate analysis with Cox regression was also performed.

SETTING: The study occurred at a community-based hospital that has an accredited general surgery training program.

PARTICIPANTS: In all, 1107 consecutive patients with stage 0–3 breast cancer undergoing breast cancer operations were included.

RESULTS: Median age of patients was 64 years (range: 24-97). Median and longest follow-up were 5.5 and 12.5 years, respectively. Initial operation was breast conserving in 796 (72%) and mastectomy in 311 (28%). Of the 1107 patients, 887 (80.1%) had resident participation. The Resident group was associated with longer operative times. We identified no differences in operative morbidity, reoperations, overall survival, disease-free survival, or local-regional recurrence in the Resident and No Resident groups.

CONCLUSIONS: Resident involvement in breast cancer operations was associated with longer operative times but did not affect any other perioperative or cancer outcome in our institution. This information can be used to reassure program directors, attending surgeons, and patients if they have questions or concerns about the safety or effectiveness of cancer surgery when there is surgical resident participation. (J Surg 72:1109-1117. © 2015 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: breast cancer, breast surgery, surgical residents, resident education

COMPETENCIES: Patient Care, Interpersonal and Communication Skills, Practice-Based Learning and Improvement

INTRODUCTION

Surgical resident training has changed dramatically in the last decade. These changes include but are not limited to work-hour restrictions, simulation laboratories, and the "Milestones" project, a methodology for yearly measurement of resident competency.[1-3] During this evolution, the

Correspondence: Inquiries to Jeffrey Landercasper, MD, Mail Stop EB1-002, Gundersen Health System, 1900 South Avenue, La Crosse, Wisconsin 54601. Fax: (608) 775-6569.; e-mail: JLanderc@gundersenhealth.org

 © 2015 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved. 1931-7204/$30.00 http://dx.doi.org/10.1016/j.jsurg.2015.06.011

importance of resident involvement in actual operations remains constant. Resident competence in the operating room has historically been determined by operative volume, diversity of case type, and staff surgeon observations. All are surrogate measures of performance. There has been an assumption that so long as residents have completed a minimally acceptable number and type of cases, they are technically prepared for graduation and independent surgical practice. Attestation of adequate technical skills, based primarily on qualitative narratives supplied by staff surgeons, followed by residency program director review is also necessary. To date, no resident-specific benchmarks for performance metrics regarding surgical or oncologic outcomes have been required. Recent changes, such as the surgical Milestones, were developed to provide a more objective and graduated assessment of resident performance.[1] Milestones describes specific levels of performance that must be achieved annually for advancement. It also requires the resident to track his or her patient outcomes, emphasizing the importance of life-long self-assessment and improvement. As resident competency must be established before graduation, long-term patient outcomes, such as cancer recurrence after resections, are not a suitable Milestones measurement for competency. Hence, the usual resident-specific postoperative outcome measurements under development are largely related to 30-day morbidity and mortality.[2,3]

It is intuitive that a patient with breast cancer may wonder whether resident involvement in the operating room affects either their immediate complication rate or their cancer outcome. They may question surgical resident competency or even the appropriateness of active resident participation. Key measures of importance to patients are not restricted to the immediate complications of their operation. Patients are concerned about cancer recurrence and other long-term outcomes.[4] The primary aim of our study was to determine whether surgical resident participation in breast cancer operations was associated with any difference in these longer term patient outcomes. The secondary aims were to assess whether the presence of residents affected the safety or technical proficiency of operations as measured by postoperative morbidity, unplanned reoperations, re-excisions after lumpectomy, number of sentinel and axillary nodes retrieved, length of operation, and cosmetic outcome.

METHODS

After Gundersen Health System Institutional Review Board approval of the study protocol, we retrospectively reviewed a prospectively collected database to identify all patients with stage 0-III breast cancer undergoing surgery in our medical center during the 9 years before 1 January, 2010. Patient subject inclusion was stopped at this time to allow sufficient follow-up time for cancer recurrence. All patient information in our prospective database was verified with retrospective review of paper or electronic medical records. Patients were excluded from study if they were male, underwent neoadjuvant therapy, received their initial cancer treatment elsewhere, or had bilateral synchronous breast cancer, prior breast cancer, or major flap reconstruction.

Study patients were treated in a 325-bed tertiary-care nonprofit teaching hospital. The hospital has an associated general surgical residency program. The structure and outcomes of breast care and the residency program at this institution have been previously described.[5,6] All breast cancer operations were performed by 1 of 2 breast surgeons (J.L./J.M.J.) and were open to resident participation, with no restrictions based on type or complexity of operation or resident program year. Owing to competing demands on resident time, however, not all operations had resident participation. In the absence of resident participation, operations were performed by staff surgeons with surgical assistants.

The degree of resident participation in specific operations was based on staff surgeon assessment, aided by department guidelines describing postgraduate year (PGY) of training and appropriate case types. The resident was designated the responsible surgeon for a case if the staff surgeon deemed that the resident had completed more than 50% of the critical portions of the case. If so, the resident was required to dictate the operative note. This was an established department policy during the years of this study. The policy aided the auditing of resident case number and case type to ensure adequacy of resident volume and exposure at each level of training. Attending surgeons and residents were compliant with this policy. Attending surgical staff were present for all operations.

Eligible patients were divided into two groups: those whose operative notes were dictated by surgical residents (*Resident as primary surgeon* group), and those whose operative notes were dictated by staff surgeons (*No Resident as primary surgeon* group). The No Resident group included patients with no resident present and patients with a general surgery and/or transitional resident present and assisting but not performing critical elements of the case as determined by the staff surgeon. Data regarding patient and tumor characteristics and treatment factors known to influence cancer outcomes were collected (Table 1). The primary study outcomes included overall survival (OS), disease-free survival (DFS), local-regional recurrence (LRR), and ipsilateral breast tumor recurrence (IBTR) in patients who underwent breast-conserving therapy. Survival analyses were performed by Kaplan-Meier curves with log-rank tests stratifying OS, DFS, LRR, and IBTR. Significant results were further assessed using a multivariate analysis method (Cox regression), adjusting for other factors, including but not limited to age, tumor size, stage, lymph node status, histology, type of anesthesia, and type of operation

Download English Version:

https://daneshyari.com/en/article/4297479

Download Persian Version:

https://daneshyari.com/article/4297479

Daneshyari.com