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Setting the bar: compliance with ovarian cancer quality indicators at a National Cancer Institute-designated Comprehensive Cancer Center☆

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HIGHLIGHTS

- Appropriate quality indicator thresholds must take into account our complex patients.
- Complete surgical staging and timely administration of chemotherapy warrant attention.
- Existing perioperative quality measures demonstrate excellent compliance.

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ABSTRACT

Objectives. Ovarian cancer quality measures are being developed to improve health care delivery and outcomes. Our objective is to evaluate compliance with 8 quality indicators proposed by the Society of Gynecologic Oncology.

Methods. A review of 123 ovarian cancer patients who underwent primary surgical staging/cytoreduction and chemotherapy from 2010–2012 was undertaken. Medical records were reviewed, and descriptive statistics were performed to determine compliance.

Results. A timely operative report documenting residual disease was dictated for 121/123 (98.4%) patients. Complete surgical staging was performed in 33/55 (60.0%) stage I–IIIB patients, with lymphadenectomy most frequently omitted. For optimally debulked stage III patients, 52/56 (92.9%) were offered intraperitoneal chemotherapy. Ultimately, 29/56 (51.8%) received this route and 19/56 (33.9%) within 42 days (range 18–48, median 40 days). Clinical trial randomization and co-morbidities accounted for most cases of non-compliance. All 105 patients for whom chemotherapy was indicated received platin/taxane therapy, and 79/105 (75.2%) within 42 days (range 4–82, median 37 days). Venous thromboembolism prophylaxis was provided mechanically in 122/123 (99.2%) and pharmacologically in 99/123 (80.5%) patients within 24 h of surgery. Prophylactic parenteral antibiotics were administered within 60 min of cytoreduction in 119/123 (96.7%) and discontinued within 24 h after surgery in 120/123 (97.6%) cases.

Conclusions. Compliance with strict definitions of ovarian cancer quality indicators varies depending on the care delivered and documentation of that care. Increased attention to comprehensive surgical staging and timely initiation of chemotherapy appears warranted. With the move toward value-based payment models, quality indicators will play a significant role in health care delivery.

1. Introduction

Health care quality measures have come into the spotlight at a national level as directed by the Patient Protection and Affordable Care Act (ACA) with the goal of understanding and optimizing the correlation between health care spending and quality care. To this regard, mandatory reporting of quality measures was included in section 2701 of the ACA [1]. The implementation of an effective and clinically relevant reporting system, however, is limited by the complex process by which these quality measures are identified, vetted, and applied.

Currently, the 11 Prospective Payment System (PPS)-exempt hospitals report 5 quality measures to the PPS-Exempt Cancer Hospital Quality Reporting program. These 5 quality measures are endorsed by the National Quality Forum (NQF), whose membership includes more

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than 400 organizations representing health care providers, consumers, and researchers. Two of the measures involve health care-associated infection outcomes (central line and catheter-associated infections) and 3 involve cancer-specific process of care measures (1 for colorectal cancer chemotherapy and 2 for breast cancer therapy) [2,3]. In response to these developments, the 2012 Society of Gynecologic Oncology (SGO) Practice Summit emphasized the importance of identifying, validating, and tracking measurable standards of high quality care for women diagnosed with gynecologic cancer [4]. Included was a list of proposed quality measures related to the treatment of patients with ovarian cancer (Table 1) [5]. The first 5 measures relate to cancer-directed surgery and chemotherapy. The last 3 measures, which have already been endorsed by the NQF as general perioperative quality outcomes, involve the prevention of surgical site infection and venous thromboembolism.

The expansion of both general and disease-specific quality indicators in gynecologic oncology is anticipated. On April 14, 2015, the Senate passed legislation to repeal the Sustainable Growth Rate (SGR) formula, which governed provider payment under Medicare's Physician Fee Schedule [6]. In place, the enactment of the Medicare Access and Children's Health Insurance Program Reauthorization Act of 2015 (MACRA) has accelerated the movement toward value-based rather than volume-based payments by 2019 through the introduction of two tracks: the Merit-Based Incentive Payment System (MIPS) and Alternative Payment Models (APM). Under MIPS, four weighted categories (quality, resource use, clinical practice improvement activities, and meaningful use of electronic health record technology) are used to calculate an overall MIPS score, which is linked to provider payment adjustment based on performance. Providers can also opt out of MIPS by choosing to participate in an APM, which utilizes bundled-payment arrangements for episodes of care and accountable care organizations to financially incentivize controlling cost growth while maintaining quality care over time. The Department of Health and Human Services announced goals for 30% of Medicare payments to be value-based by the end of 2016 and 50% by the end of 2018 [7]. While many of the quality measures used in these value-based payment models have yet to be fully defined, it is prudent for us to assess current compliance with proposed quality indicators in order to establish baseline performance as well as to identify deficiencies that may be present and thus warrant our early attention. The objective of this study is to evaluate compliance at a single National Cancer Institute (NCI)-designated Comprehensive Cancer Center with the 8 ovarian cancer quality indicators proposed by the SGO.

Table 1
Ovarian cancer quality indicators proposed by the Society of Gynecologic Oncology.

1. Operative report with documentation of residual disease within 48 h of cytoreduction for women with invasive ovarian, fallopian tube, or peritoneal cancer
2. Complete staging for women with invasive stages I–IIIB ovarian, fallopian tube, or peritoneal cancer who have undergone cytoreduction
3. Intraperitoneal chemotherapy offered within 42 days of optimal cytoreduction to women with invasive stage III ovarian, fallopian tube, or peritoneal cancer
4. Intraperitoneal chemotherapy administered within 42 days of optimal cytoreduction to women with invasive stage III ovarian, fallopian tube, or peritoneal cancer
5. Platin or taxane administered within 42 days following cytoreduction to women with invasive stages I (grade 3), IC-IV ovarian, fallopian tube, or peritoneal cancer
6. Venous thromboembolism prophylaxis administered within 24 h of cytoreduction to women with invasive ovarian, fallopian tube, or peritoneal cancer (NQF Endorsed #0218)
7. Order for prophylactic parenteral antibiotic administration within 1–2 h before cytoreduction for women with invasive ovarian, fallopian tube, or peritoneal cancer (NQF Endorsed #0527)
8. Order for prophylactic parenteral antibiotic discontinuation within 24 h after cytoreduction for women with invasive ovarian, fallopian tube, or peritoneal cancer (NQF Endorsed #0529)

2. Methods

The Ohio State University Institutional Review Board approved this study. Throughout the report, the term ovarian cancer will encompass the diagnoses of ovarian, fallopian tube, and peritoneal cancer. All consecutive patients who underwent primary surgical staging or cytoreduction for epithelial ovarian cancer by 6 gynecologic oncology providers at The Ohio State University between January 1, 2010 and December 31, 2012 were included in the study. Exclusion criteria were those patients with borderline ovarian tumors on final pathology, those who received neoadjuvant chemotherapy, and those who received a portion of their upfront treatment (either cancer-directed surgery or chemotherapy) at another institution.

Hospital and outpatient records were reviewed for components of the 8 SGO ovarian cancer quality indicators. The 8 SGO ovarian cancer quality indicators are shown in Table 1 and summarized as follows: Quality indicator #1 —operative report with documentation of residual disease within 48 h of cytoreduction; Quality indicator #2 —complete staging for women with stages I–IIIB ovarian cancer; Quality indicator #3 — intraperitoneal (IP) chemotherapy offered within 42 days of optimal cytoreduction to women with stage III disease; Quality indicator #4 — IP chemotherapy administered within 42 days of optimal cytoreduction to women with stage III disease; Quality indicator #5 — platin or taxane administered within 42 days of cytoreduction to women with invasive stages I (grade 3), IC-IV ovarian cancer; Quality indicator #6 — venous thromboembolism prophylaxis administered within 24 h of cytoreduction (NQF Endorsed #0218); Quality indicator #7 — order for prophylactic parenteral antibiotic administration within 1–2 h before cytoreduction (NQF Endorsed #0527); Quality indicator #8 — order for prophylactic parenteral antibiotic discontinuation within 24 h after cytoreduction (NQF Endorsed #0529).

Patient demographics and characteristics were collected including age, race, ethnicity, insurance status, and body mass index. Operative notes were reviewed for documentation of residual disease and timing of dictation. Pathology reports were used to confirm tumor characteristics (histology, grade, and stage) as well as to determine the surgical procedures performed. For quality indicator #2, complete staging was defined for stages I–IIIB based on the Gynecologic Oncology Group (GOG) Surgical Procedures Manual [8]. For stages I–IIIA, complete staging included pelvic washings, peritoneal biopsies, omental biopsy or omentectomy, bilateral pelvic lymphadenectomy, and bilateral para-aortic lymphadenectomy. For stage IIIB, complete staging incorporated omental biopsy or omentectomy, bilateral pelvic lymphadenectomy, and bilateral para-aortic lymphadenectomy. Outpatient records were reviewed for discussion of treatment options, timing of initiation, as well as type and route of chemotherapy administered. Inpatient charts were used to assess venous thromboembolism prophylaxis by mechanical and/or pharmacologic methods, in addition to administration and discontinuation of parenteral antibiotic prophylaxis around the time of surgery.

Patient demographics and disease characteristics are described by the median, minimum, maximum, or percentage. Compliance with each quality indicator is summarized by the percentage meeting the defined measures. Further summary of timing is given for selected quality indicators as the median, minimum, and maximum.

3. Results

A total of 123 patients met study criteria. Patient characteristics are described in Table 2. The age of patients ranged from 29.5 to 88.1 years with a median age of 58.8 years. The majority of patients (94.3%) identified as White and Non-Hispanic. Over two-thirds (70.7%) were overweight or obese. With regard to insurance coverage, 55.3% of patients received insurance coverage through Managed care plans alone, 15.4% through Medicare or Medicaid alone, and 20.3% using a combination of the two. As expected, the majority of patients