Unplanned return to operating room in a community hospital–based obstetrics and gynecology residency

Thomas P. Connolly, DO

The American College of Obstetricians and Gynecologists clinical indicator for unplanned return to the operating room during the same admission in an obstetrics and gynecology residency is reviewed in this article. A retrospective chart review of all gynecologic surgeries during a 3-year period was evaluated for this indicator. An incidence of 0.03% was noted, with 3 of 1492 procedures meeting the definition of this indicator. The incidence of this clinical indicator is uncommon in a community hospital–based obstetrics and gynecology residency.

(Key words: original contribution, surgery, obstetrics and gynecology, clinical indicator, American College of Obstetricians and Gynecologists)

Unplanned return to the operating room during the same admission is an American College of Obstetricians and Gynecologists (ACOG) gynecologic clinical indicator for quality assessment and improvement in obstetrics and gynecology departments. The indicator is defined as patients who, after surgery (inpatient or outpatient), return to the operating room due to complications or untoward outcomes related to the initial surgery. It has been suggested also as a screen for medical inquiries and malpractice. The Institute of Medicine report on medical errors has influenced public perception of quality in medical care, especially in preventable events.

The presence of a residency training program may impact patient management issues regarding quality indicators. Patients of resident clinics often are indigent and have preexisting medical morbidities influencing perioperative complications. Variations in residency program structure as well as amount of faculty supervision and experience also may influence this indicator. This study was done to assess the ACOG gynecologic clinical indicator in a surgically based training program, as the incidences or types of reoperation in an obstetrics and gynecology residency have not been previously reviewed.

Methods
A retrospective chart review of gynecologic surgical cases at St. Francis Hospital of Evanston, Illinois, during a 3-year period (1998–2000) was performed. The hospital is a 367-bed community hospital with a fully accredited obstetrics and gynecology residency program with two residents at each level (postgraduate years 1-4). The resident clinic sees an average of 7000 patients annually. The gynecology service is 70% private and 30% clinic based. Most procedures are performed by third- and fourth-year graduate residents, as the major emphasis of the third and fourth postgraduate training years is on gynecology, pelvic surgery, urogynecology/pelvic reconstructive surgery, and gynecologic oncology. Training in breast disease and breast surgery is part of the gynecologic oncology service.

During the study period, the supervising faculty consisted of 12 attending physicians in the obstetrics and gynecology department. All gynecologic surgical procedures (both clinic and private) are considered teaching cases, with the residents performing 50% or more of the procedures. The medical record of each case with an unplanned return to the operating room after gynecologic surgery was additionally reviewed. The initial procedure and details regarding the reoperative procedure were noted and summarized in cases 1-3, which follow. The number and types of procedures for the study period are shown in the Table.

Case summaries
Case 1—Initial procedure, transabdominal hysterectomy with bilateral salpingo-oophorectomy (TAH-BSO) for endometriosis
The patient had a 16-year history of Crohn’s disease with a prior colectomy and ileostomy. After 2 hours in the postanesthesia care unit, an increasing amount of blood was in the patient’s colostomy bag. The patient was returned to the operating room for endoscopy of the ileostomy. A small bowel perforation was noted, probably due to the lysis of extensive pelvic and abdominal adhesions during the TAH-BSO. The area was resected and reanastomosis was performed. The patient was discharged on postoperative day 1.

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Case 2—Initial procedure, exploratory laparotomy/TAH-BSO

The patient was returned to the operating room due to excessive vaginal bleeding. Examination in the operating room revealed bleeding at the vaginal cuff angles, which were then resutured.

Case 3—Initial procedure, diagnostic laparoscopy with injury to the right inferior epigastric vessels; trocar site was sutured with apparent hemostasis

After the patient was observed for 6 hours in the postanesthesia care unit with increasing patient discomfort and decreasing hemoglobin levels and blood pressure, she was returned to the operating room for laparotomy. A large right rectus sheath hematoma was evacuated with ligation of the inferior epigastric vessels; transfusion of packed red blood cells also was necessary.

Results

The review found 3 of 1492 cases requiring an unplanned return to the operating room, for an incidence of 0.03%. The total number and distribution of all procedures were consistent with the median number of experiences of graduating obstetrics and gynecology residents provided in a study of self-reported data from 259 residency programs. In addition, the report also suggested that program size is not an issue in obstetrics and gynecology residency training experiences.

Discussion

This is the first study of the incidence of unplanned return to the operating room within the context of an obstetrics and gynecology residency. The incidence of reoperation is similar to previously published reports regarding all surgical specialty procedures combined. A population-based study in Australia reported a 0.6% incidence of reoperation for all surgical procedures. Most of the patients in a study by Ashton et al required reoperation for hemorrhage, with an equal percentage of cesarean sections and gynecologic operations. Thirty (0.46%) patients required one or more operations to control bleeding after 6479 elective surgical procedures, which also included gynecologic procedures. A specific bleeding site was only identified in 0.15% of patients; two of these cases were gynecologic (one vaginal and one abdominal hysterectomy). Postoperative bleeding often is the concern when a

<table>
<thead>
<tr>
<th>Procedure</th>
<th>1998</th>
<th>1999</th>
<th>2000</th>
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</thead>
<tbody>
<tr>
<td>Axillary node dissection</td>
<td>15</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Breast biopsy</td>
<td>71</td>
<td>50</td>
<td>38</td>
</tr>
<tr>
<td>Cervical conization</td>
<td>28</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Hysteroscopy (diagnostic and operative)</td>
<td>123</td>
<td>131</td>
<td>84</td>
</tr>
<tr>
<td>Laparoscopy (diagnostic and operative)</td>
<td>119</td>
<td>154</td>
<td>87</td>
</tr>
<tr>
<td>Laparoscopic hysterectomy</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Laparotomy without hysterectomy</td>
<td>24</td>
<td>35</td>
<td>39</td>
</tr>
<tr>
<td>Laser to cervix, vulva, vagina</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Mastectomy</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Surgery for invasive cancer</td>
<td>17</td>
<td>19</td>
<td>23</td>
</tr>
<tr>
<td>Surgery for genuine stress incontinence or pelvic reconstruction</td>
<td>45</td>
<td>26</td>
<td>27</td>
</tr>
<tr>
<td>Surgery for infertility</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total abdominal hysterectomy</td>
<td>56</td>
<td>74</td>
<td>73</td>
</tr>
<tr>
<td>Total vaginal hysterectomy (including laparoscopically assisted vaginal hysterectomy)</td>
<td>19</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>Vaginectomy</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Vulvectomy</td>
<td>4</td>
<td>5</td>
<td>2</td>
</tr>
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return to the operating room is considered. A French report on postoperative hysterectomy complications noted an overall reoperation rate of 0.8%; this did not differ with type of procedure (abdominal, vaginal, or laparoscopic). Two reports of studies from the general surgery literature have noted that technical problems related to hemostasis and wound closure were most commonly responsible for reoperation. In addition to classic gynecologic surgery, operative laparoscopic procedures require the development of highly technical skills; our review demonstrated that reoperation was uncommon with these types of cases as well. The emphasis of surgical training for obstetrics and gynecology residents is to develop the knowledge base and technical skills necessary for successful clinical practice. An important factor in this process is the faculty supervision of all aspects of residency training, especially in surgery. Studies have supported the position that with regard to optimal patient care, an attending physician presence in the operating room is statistically significant. In 1991, the American Council of Graduate Medical Education Residency Review Committee required attending physician presence whenever clinical activity is occurring. Studies have reviewed the safety of general surgery performed by residents under the direct supervision of attending physicians. Shaked et al found no differences in the rate of technical complications, postoperative morbidity and mortality, or length of hospitalization in these cases. With regard to obstetrics and gynecology, there are currently no published reports regarding reoperation and the safety of surgical procedures performed by resident staff under attending supervision.

Evaluation of surgical skills in obstetrics and gynecology is often a subjective assessment by the supervising faculty over time. Resident experiences show variations in patients, procedures, faculty assessment, and degree of responsibility, even within individual programs. Therefore, clinical quality indicators in gynecology may be equally variant in departments with residency programs.

Finally, there are no standards for an “acceptable” reoperation rate; it is certainly not established when these events are preventable or reflect quality of care.

Conclusion
Gynecologic surgery performed in a community hospital–based obstetrics and gynecology residency has a rare incidence of unplanned return to the operating room after surgery. Procedures with attending physician supervision in resident training programs should generally not be of concern to hospital or obstetrics and gynecology department quality assessment activities with regard to this clinical indicator. However, it is important to evaluate such quality indicator criteria from not only the perspective of improving patient care, but from the perspective of residency training and education.

References