
GYNAECOLOGY

Evaluation of Completeness of Operative Records in Women Undergoing Gynecologic Surgery at Chiang Mai University Hospital

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ABSTRACT

Objective: To evaluate the completeness of operative records at the general gynecologic surgery unit using the Good Surgical Practice (GSP) 2008 guidelines as a gold standard.

Materials and methods: The operative records of women undergoing gynecologic operation at Chiang Mai University Hospital between January and July 2009 were reviewed. According to GSP 2008, the operative record should include all of the following data: (1) date and time of operation; (2) types of surgery; (3) name of the operating surgeon and assistant; (4) operative procedure carried out; (5) incision; (6) operative diagnosis; (7) operative findings; (8) operative complications; (9) any extra procedure performed and its reason; (10) details of tissue removed, added or altered; (11) identification of any prosthesis used including serial numbers of such materials; (12) details of closure technique; (13) postoperative care instruction and (14) a signature

Results: During the study period, the medical records of 232 women who underwent gynecologic surgery were reviewed to determine the quality of the operative record. Postoperative care instruction was completely recorded in all operative notes (100%). Only 2 of the 14 items failed above 10% including details of incision (10.3%) and details of closure technique (12.9%). The signature was absent in 13 operative notes (5.6%).

Conclusion: The evaluation results of operative records as per GSP 2008 guidelines in this study appear to be favorable. The details of incision and closure technique should be improved and periodic audit is required to assure that these standards are maintained.

Key words: audit, operative note, operative record

Introduction

Medical records contribute a major role in the patient care system. The principal aim of the medical

records is to aid memoir and to communicate among health-care personnel. Another function of medical records are to be a source of information for various

clinical activities including medical education, performance audit, research, epidemiology, resource assignment, service planning and medico-legal implications⁽¹⁾. Therefore, complete medical record keeping is mandatory.

Operative record is an important part of medical records for the patient undergoing surgical treatment. Beyond documenting the operative findings and detailing the surgical procedures, operative record serve as an important source of information for other health-care providers involved in subsequent care i.e. nursing staff, physical therapist and physicians during the follow-up period. In addition, operative record could be a valuable tool for surgical training. Thus, accuracy and completeness of operative records are fundamental for good surgical care.

The Royal College of Surgeons of England has published "Good Surgical Practice" (GSP) to set standards for surgeons⁽²⁾. These guidelines cover a variety of issues regarding quality assurance in surgical practice including the requirement of operative note recording. GSP has been used as standard guideline in several previous studies⁽³⁻⁷⁾.

Chiang Mai University Hospital is the teaching hospital in the northern part of Thailand and serves approximately 500 women with gynecologic conditions requiring surgical intervention annually. This study was undertaken to evaluate the completeness of operative records at the general gynecologic surgery unit, Chiang Mai University Hospital using the GSP guidelines as standard benchmark. The results of this study would identify the issues of operative dictation those need to be improved.

Materials and methods

After receiving approval from the Research Ethics Committee of the Faculty, the medical records of all women with gynecologic conditions who underwent surgery at the general gynecology unit during January to July 2009 were reviewed. Abstract data included availability of operative notes within the medical record and baseline characteristics of patients.

The completeness of operative notes was

determined by assessing adherence to the GSP 2008 guidelines⁽²⁾ which recommended that the operative notes should include following data: (1) date and time of operation; (2) types of surgery i.e. elective or emergency procedure; (3) name of the operating surgeon and assistant; (4) operative procedure carried out; (5) incision; (6) operative diagnosis; (7) operative findings; (8) operative complications; (9) any extra procedure performed and its reason; (10) details of tissue removed, added or altered; (11) identification of any prosthesis used including serial numbers of such materials; (12) details of closure technique; (13) postoperative care instruction and (14) a signature.

In this study, completeness of operative notes as per GSP 2008 guidelines was independently evaluated by two authors (N.M. and N.S.). Any disagreement was resolved through discussion or by appeal to the remaining authors if necessary.

The results were provided as number (percentage) of patients. Statistical analysis was carried out using SPSS version 17 (SPSS, Chicago, IL, USA).

Results

During the study period, medical records of 255 women who had undergone gynecologic surgery were recruited and reviewed for the quality of their operative records. Twenty-three records were excluded because the operative notes were untraceable leaving 232 handwritten postoperative records for reviewing. Almost all of the recorded were done by residents.

The mean age of the 232 women was 46.9 years. Fifty women (21.6%) were postmenopausal. Forty-nine women (21.1%) were nulliparous. Almost all of them (97%) underwent elective surgical procedures.

The most common preoperative diagnosis was myoma uteri (39.2%) followed by benign ovarian tumor (22.4%), adenomyosis (11.6%), uterovaginal prolapse (6.5%), cervical intraepithelial neoplasia 2-3 (4.3%).

The common surgical procedures were as follows: total abdominal hysterectomy (TAH) with bilateral salpingo-oophorectomy (BSO), 100 (43.1%); TAH, 33 (14.2%); TAH with unilateral salpingo-

oophorectomy, 19 (8.2%); unilateral salpingo-oophorectomy, 16 (6.9%); vaginal hysterectomy, 12 (5.2%); total laparoscopic hysterectomy, 6 (2.6%).

Details of the procedure, preoperative diagnoses, and surgical procedures are shown in Table 1.

Table 2 shows the audit results of 232 operative

notes as per GSP 2008 guidelines. Postoperative care instruction was completely recorded in all operative notes (100%). Percentage of failed records above 10% was observed in two, i.e. details of incision (10.3%) and details of closure technique (12.9%). The signature was absent in 13 operative notes (5.6%).

Discussion

Table 1. Baseline characteristics of the patients (N=232)

Characteristics	Number (%)
Types of surgery	
Elective	225 (97.0)
Emergency	7 (3.0)
Preoperative diagnoses	
Myoma uteri	91 (39.2)
Benign ovarian tumors	52 (22.4)
Adenomyosis	27 (11.6)
Uterovaginal prolapse	15 (6.5)
Cervical intraepithelial neoplasia 2-3	10 (4.3)
Endometrial hyperplasia	5 (2.2)
Ectopic pregnancy	4 (1.7)
Others	28 (12.1)
Types of procedures	
TAH with bilateral SO	100 (43.1)
TAH	33 (14.2)
TAH with unilateral SO	19 (8.1)
Unilateral SO	16 (6.9)
Vaginal hysterectomy	12 (5.2)
TLH	6 (2.5)
Myomectomy	5 (2.2)
Ovarian cystectomy	5 (2.2)
Cold-knife conization	5 (2.2)
Others	31 (13.4)

Abbreviation: TAH, total abdominal hysterectomy; SO, salpingo-oophorectomy; TLH, total laparoscopic hysterectomy

Table 2. Audit of operative note at Chiang Mai University Hospital (N= 232)

Standard required by the GSP 2008 (all items must be stated)	Stated	Unstated	Percentage of failed records
Date and time of operation	227	5	2.2
Types of surgery*	225	7	3.0
Name of surgeon and assistant	231	1	0.4
Operative procedure carried out	230	2	0.9
Details of incision	208	24	10.3
Operative diagnosis	227	5	2.2
Operative findings	231	1	0.4
Operative complications	225	7	3.0
Any extra procedure performed and its reason	230	2	0.9
Details of tissue removed, added or altered	231	1	0.4
Identification of any prosthesis used, if any†	N/A‡	N/A‡	N/A‡
Details of closure technique	202	30	12.9
Postoperative care instruction	232	0	0
A signature	219	13	5.6

Abbreviation: GSP, good surgical practice

*Including elective or emergency procedure

†Including serial numbers of such materials

‡ Not assessable because no woman required prosthesis used.

This study presents the findings obtained from an audit of operative records in women undergoing gynecologic surgery for benign diseases at Chiang Mai University Hospital. Although the audit results in this study were generally favorable (Table 1). These findings however should be cautiously considered in that audit items as per GSP 2008 guidelines are only process measurements. Each item is checked as present or absent. Therefore, other aspects of quality measurement i.e. level of completeness, structure and outcome have not been elucidated. Although commonly used, benefit of process measurement to improve clinical outcomes is far from clear⁽⁸⁾. This may be a disadvantage of applying GSP 2008 guidelines and accordingly become a major limitation of this study. However, in the real practice, it has been difficult or eventually impossible to generate perfect

measurement in auditing medical records.

As mentioned earlier, medical records are vital documents for risk management and are often used in medicolegal cases. Thus, it would be a major concern if some operative records could not be traced for review. In this study, twenty-three medical records were excluded because of the unavailability of operative notes. The reasons for missing postoperative data are being investigated to prevent this unexpected finding.

Recording personnel who records and the types of surgery have been noted and are considered as predictors for the quality of operative note. Baigrie et al⁽³⁾ reported that operative records of emergency operations and those written by trainees had higher quality scores than those of elective procedures or when the records were written by the consultants. In

this study, almost all operative records were written by residents and were elective surgical procedures, these two factors, therefore, could not be evaluated.

To the best of our knowledge, the majority of operative records in Thailand are handwritten. Handwritten records have been reported as time-consuming and sometimes unreliable medical records. A wide variation in the quality of the handwritten operative record is expected because it depends on the performances and skills of an individual writer. Lefter et al⁽⁹⁾ found that approximately 50% of handwritten surgical notes of patients at Department of Surgery, Royal Hobart Hospital, Australia, were incomplete. Regarding the details of records, the most common items of those which failed to be stated included a signature of writer (15.3%), postoperative instruction (14.7%) and patients' code (13.7%). Baigrie et al⁽³⁾ observed that details of approximately 70% of written operative notes were not able to be understood. In authors' institute, all operative records in general gynecology surgery were paper-based and handwritten. Although a direct comparison across studies may be unwarranted due to a difference in the details of settings and audit criteria used, our findings, however reaffirmed the weakness of handwritten operative records.

Including formal teaching about writing operative record into the surgical training program may improve the quality of handwritten operative records. In a survey of Canada and USA residency program, formal teaching in writing operative records was rarely performed⁽¹⁰⁻¹²⁾. Approximately 80% of participants used old operative notes for an example when writing their own operative records and 70% of them needed to be trained in dictation. Eichholz et al⁽¹¹⁾ demonstrated that only a brief session regarding the necessity and writing techniques of the key elements of operative note i.e. date of the procedure, pre- and postoperative diagnosis, personnel involved, type and details of the procedure, and intraoperative findings was found to be sufficient for effective teaching in writing the operative note.

Other options to improve quality of operative reports include adding aid-memoire attached to

operative note, preparing operative sheet in a tic-box format or using computer-based records. Seemingly, computer-standardized recording would be the most attractive options because it provides additional advantages over paper-based recording includes collecting data in the format that allows the audit process to be easier.

The limitations of this study are worthy of note. First, audit results in this study were given from process measurement only. Other issues of quality measurement remain unaddressed. Second, this study did not attempt to confirm whether the data provided represented actual events that occurred during the operation. In conclusion, results of process audit of operative records as per GSP 2008 guidelines in this study appear to be favorable. Periodic audit is required to assure that these performances are maintained. Formal teaching session in writing operative records will be helpful to improve the quality of operative recording.

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การประเมินความสมบูรณ์ของแบบบันทึกการผ่าตัดในสตรีที่เข้ารับการผ่าตัดทางนรีเวชที่โรงพยาบาลมหาวิทยาลัยเชียงใหม่

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วัตถุประสงค์ : เพื่อประเมินความสมบูรณ์ของการบันทึกการผ่าตัดในผู้ป่วยนรีเวชทั่วไปโดยใช้ *Good Surgical Practice 2008 Guidelines* เป็นมาตรฐาน

รูปแบบการวิจัย : การวิจัยเชิงพรรณนาแบบเก็บข้อมูลย้อนหลัง

วัสดุและวิธีการ : ตรวจสอบคุณภาพของแบบบันทึกการผ่าตัดของสตรีที่มารับการผ่าตัดทางนรีเวชทั่วไปในโรงพยาบาลมหาวิทยาลัยเชียงใหม่ในช่วงเดือนมกราคม-กรกฎาคม 2552 โดยใช้เกณฑ์ของ *Good Surgical Practice (GSP) 2008* ของราชวิทยาลัยศัลยศาสตร์ประเทศอังกฤษ ซึ่งประกอบด้วย 1. วันที่และ เวลาที่ทำการผ่าตัด 2. ชนิดของการผ่าตัด 3. รายชื่อแพทย์ผู้ทำการผ่าตัด และผู้ป่วย 4. ขั้นตอนการผ่าตัด 5. ชนิดของแผลที่ผิวนัง 6. การวินิจฉัยหลังผ่าตัด 7. ลิ่งตรวจพบจากการผ่าตัด 8. ภาวะแทรกซ้อนจากการผ่าตัด 9. หัตถการอื่นๆ นอกเหนือจากการผ่าตัดโดยทั่วไปและสาเหตุ 10. ขั้นนี้อ้อที่ได้รับการตัดหรือซ่อมแซม 11. อุปกรณ์และเลขประจำอุปกรณ์ในกรณีที่มีการใส่คุปกรณ์พิเศษค้างไว้ 12. วิธีการปิดแผล 13. คำแนะนำและแผนการรักษาหลังการผ่าตัด 14. การลงชื่อผู้บันทึก

ผลการศึกษา : จากการทบทวนแบบบันทึกการผ่าตัดของผู้ป่วยทางนรีเวชจำนวน 232 ราย (ที่ได้รับการผ่าตัดตั้งแต่เดือนมกราคม ถึง กรกฎาคม ปี พ.ศ. 2552) พบว่า ในหัวข้อคำแนะนำและแผนการรักษาหลังการผ่าตัด มีการบันทึกครบถ้วนราย สำหรับหัวข้อที่พบว่ามีสัดส่วนของการไม่บันทึกมากกว่า 5.6% 10 คือ ชนิดของการลงแผลที่ผิวนัง และวิธีการเย็บปิดแผล โดยคิดเป็นร้อยละ 10.3 และ 12.9 ตามลำดับ การไม่ลงนามของผู้บันทึกการผ่าตัดพบใน 13 รายงาน (ร้อยละ 5.6)

สรุป : การประเมินความสมบูรณ์ของบันทึกทางการแพทย์ระหว่างและหลังการผ่าตัดอ้างอิงตาม *GSP 2008* ในการศึกษานี้ พบว่า มีคุณภาพอยู่ในระดับที่น่าพอใจ แต่ควรปรับปรุงการบันทึกชนิดของของการลงแผลผ่าตัดและการเย็บปิดแผลผ่าตัด นอกจากนี้ ควรมีการประเมินช้า เป็นระยะเพื่อรักษามาตรฐานดังกล่าว