Unplanned Admission to Siriraj Post-Anesthetic Intensive Care Unit

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Abstract

Objective : Notice of all surgical patients who need access to Siriraj post-anesthetic intensive care unit (ICU) must be given to the ICU in advance by the surgical team. However, there are some patients who present unexpectedly, and we would like to evaluate this unplanned ICU admission as a quality control.

Patients and Method : We performed a self-reported study of the patients who were categorized as unplanned for ICU admission over a six-month period from June 1st to November 30th, 2001. We attempted to quantify these patients into small groups in order to learn what the reasons were, where they came from, and how big the anesthesia-related reasons can be.

Results : There were 520 admissions to the ICU during study period, and of those 80 were unplanned patients. The major source of these patients is from the operating theaters, followed by the recovery rooms and surgical wards. There were 65 patients admitted because of the cardiopulmonary problems, while 13 patients were admitted for close observations; surgical complications made up another 8 patients. Overall there were 36 unplanned patients because of anesthesia-associated complications.

Conclusion : These results indicate that the patients who are admitted to the post-anesthetic ICU without prior planning can provide insights of ICU resource management, and the standards of perioperative management in the operating theatres. It definitely offers an opportunity to implement changes in our anesthetic practice. We will continue to monitor the impact of this important indicator.

Key word : Surgical Patients, Medical Audit, Unplanned ICU Admission, Anesthetic Complications

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Costs for health care have dramatically increased over the last decade, and in the resource-constrained era, the hospital committee has prompted interest in medical audit and performance output in both quality and quantity. The aims for this audit are to assure that quality of clinical practice will occur as well as resource management[1]. In every part of the hospital, as well as the intensive care unit (ICU), continuous medical audit appears to be necessary in order to allow analysis and implementation.

Unplanned admission of surgical patients to the ICU is one of the important anesthesia indicators (AN-8) defined by Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in 1994 as "unplanned admission of patients to an intensive care unit within 1 postprocedural day of procedure involving anesthesia administration and with ICU stay greater than 1 day"[2]. Audit of these unplanned admitted patients may demonstrate problems of care requiring improvement, as well as resource management.

We evaluated the unplanned admitted patients to the post-anesthetic ICU as a performance measurement and quality control. The attempt was made to identify whether the cause may be predictable and preventable.

PATIENTS AND METHOD

Admission of surgical patients to Siriraj post-anesthetic intensive care unit (ICU) is currently managed by the staff anesthetist who is in charge of the unit during that period. During office hours the ICU must be notified in advance by the responsible surgical teams of any patient, either elective or emergent, who needs to gain access; including the reason why. A booking process is always required for elective admission in a booking form provided at the unit, however, emergent patients can be reported *via* telephone discussion. Outside working hours, oncall staff have the authority to admit patients for whom they think ICU admission may deem necessary. Consultation with the daytime staff may be performed by phone. Currently, the post-anesthetic ICU serves all postoperative patients with the exclusion of cardio-thoracic, neurosurgical, pediatric, and traumatic patients.

From June 1st, 2001 to November 30th, 2001 all unplanned admission patients were prospectively and consecutively recorded. A monthly report of unplanned admission patients was distributed to all members of the ICU team and data collection committee. The criteria for the definition of unplanned admission during the study period was, any patients who were notified to the ICU for immediate booking after induction of anesthesia was performed. The reasons may include surgical complications, unforeseen anesthesia related complications, or close observation required for the immediate postoperative period. Emergency admissions of in-patients who received anesthesia within 24 hours were included as unplanned admissions. Details of patient characteristics, operative plans, and reasons for ICU admission were collected. Attempts were made to learn the cause whether it had been predictable or preventable, where the patient came from, and how big the anesthesia-associated cause may become.

RESULTS

During the study period, 11,864 operations were performed under anesthesia, after excluding cardio-thoracic procedures, pediatrics, dental, and trauma services, 10,231 patients were potentially eligible for ICU admission. There were 520 patients admitted to post-anesthetic ICU.

Eighty admissions were unplanned. The major causes for unplanned admissions are cardiac and pulmonary causes; 36 and 29, respectively; they are shown in Table 1. Other causes of unplanned admissions are surgery-associated complications, postoperative hemodynamics or respiratory monitoring, and neurological causes. The unplanned admission was 15.85 per cent of overall ICU admission during the study period.

The major source of unplanned admission patients was the operating theaters (65/80), while 8 patients came from the recovery room (RR), and 6 patients came from surgical wards. Anesthesia-associated complications occurred in 36 patients.

Time of identification of complications

All 36 patients with anesthesia-associated complications can be categorized into 8 problems during the induction period, 13 patients during the maintenance, and the majority group of 15 patients with complication during recovery period. The great majority of these were due to ventilatory inadequacy after reversal of non-depolarizing muscle relaxants. The causes of complications that happened during induction, maintenance and recovery are summarized in Tables 2-4.

Table 1. Cardiovascular and respiratory causes of unplanned admissions to the post-anesthetic ICU.

Cardiovascular causes	Number	Respiratory causes	Number
Hemodynamics instability	15	Respiratory failure	8
Septic shock	5	Respiratory support	9
Volume overload	5	Pulmonary aspiration	4
Change of intraoperative ECG	4	Unexpected difficult airway	3
Cardiac arrest	3	Bronchospasm	3
Perioperative MI	2	Dyspnea	1
Cardiac arrhythmia	2	Pneumothorax	1

ECG = electrocardiogram, MI = myocardial ischemia

Table 2. Causes of complications during induction.

	Number	Deaths	Permanent morbidity	Avoidable factors present
Aspiration	5	0	0	4
Unexpected difficult airway	2	0	0	0
Severe bronchospasm	1	0	0	0
Total	8	0	0	4

Table 3. Causes of complications during maintenance.

	Number	Deaths	Permanent morbidity	Avoidable factors present
Intraoperative change of ECG	4	0	0	2
Cardiac arrest	3	0	0	2
Acute pulmonary edema	2	0	0	2
Unstable hemodynamics/Periop MI	2	1	0	1
Hypoventilation/high epidural block	1	0	0	1
Volume overload	1	0	0	1
Total	13	1	0	9

ECG = electrocardiogram, MI = myocardial ischemia

Table 4. Causes of complications during recovery.

	Number	Deaths	Permanent morbidity	Avoidable factors present
Postoperative hypoventilation/respiratory failure	9	0	0	4
Volume overload	2	0	0	2
Severe bronchospasm	2	0	0	0
Hypotension with confusion	1	0	0	0
Dyspnea with desaturation	1	0	0	0
Total	15	0	0	6

Sex and age

In all, unplanned admission patients consisted of 29 men and 51 women, with the average age of 52.77 years (range 20-87).

Length of stay in ICU

The length of stay varied from overnight stay to 29 days. Twenty-four patients spent less than 24 hours in the ICU.

Type of operation

Overall of the unplanned admission patients, fifty-five patients were admitted to the ICU after elective procedures and twenty-five patients were admitted after emergency procedures. In patients with anesthesia-associated complications subgroup, there were twenty-three patients admitted after elective procedures and thirteen patients after emergency operations.

Deaths

Three patients died in the ICU and two patients died at the surgical wards after discharge. Therefore, the overall mortality rate was 6.25 per cent. The death of one patient was considered to be partially attributed to anesthesia-associated complications which are shown in Table 3. Primary pathology and surgical factors contributed to death in the remaining four patients.

Permanent morbidity

There was one patient with permanent morbidity. The event which led to this permanent brain injury resulted from severe hypoxia following surgical complications and continued to intraoperative cardiac arrest. The anesthesia team involved with this patient noticed the abrupt disappearance of end-tidal CO_2 monitoring and notified the surgical team.

Complications which were wholly or partially avoidable

Nineteen patients out of thirty-six patients with anesthesia-associated problems are discussed below.

Regurgitation and aspiration during induction (Table 2)

An elderly woman with osteoarthritis of the knee was scheduled for total knee replacement. The continuous epidural anesthesia was performed but the anesthetic level was not adequate, so that general anesthesia was induced, however, the recovery was without sequelae. Two patients with gastrointestinal (GI) pathology; one with cancer of the stomach and the other with cancer of the colon, scheduled for elective exploratory laparotomy, both operations were successful, one patient was admitted from the operating theater, while the other was sent from the recovery room. They recovered without serious complications. An emergency cesarean section was scheduled for a pregnant woman due to previous cesarean procedure. It was noted by the anesthetic team that she was difficult to intubate and was suspected of aspiration during the laryngoscopy, she stayed in the ICU for three days.

Intraoperative change of ECG (Table 3)

Four patients had the events of intraoperative change of the ECG monitoring, two of which were considered to be predictable. The first patient was a 72-year-old man who underwent elective embolectomy of the femoral artery from acute arterial occlusion, and the second was an 81-year-old woman scheduled for elective hemiarthroplasty due to fracture of the neck of left femur. Her preoperative ECG showed that there was a change in ST-T segment. They stayed in the ICU for four and three days, respectively.

Cardiac arrest

The first of two cases was a 52-year-old man with renal calculi who received percutaneous nephrolithotomy (PCNL) in the prone position, the malposition of the endotracheal tube was diagnosed by the staff anesthesist. The second patient required emergency operation for hysterectomy due to ruptured uterus, respiratory support and aggressive hemodynamics resuscitation were required. Both patients recovered without permanent morbidity.

Acute pulmonary edema

Both patients were admitted to the ICU after emergency procedures. The former was a 39-year-old pregnant woman with intraabdominal hematoma after cesarean delivery. She was brought back to the operating theater for emergency exploratory laparotomy and delivered to the ICU after the second procedure. She was admitted in the ICU for five days. The latter was a 59-year-old lady with liver cirrhosis and lower GI hemorrhage who underwent endoscopic and intervention radiologic procedure. She was closely observed for four days in the ICU.

Unstable hemodynamics/Perioperative myocardial infarct

A 70-year-old woman with a history of diabetes and hypertension was admitted to the ICU after emergency exploratory laparotomy for colonic obstruction, she developed unstable hemodynamics intraoperatively and finally turned out to be a cardiogenic shock from perioperative MI. She died in the ICU after a period of aggressive hemodynamics and respiratory support, and subsequent multiple organ system failure.

Hypoventilation/high epidural block

This patient was an elderly man with osteoarthritis of both knees scheduled for elective total knee replacement, he developed respiratory difficulty after continuous epidural anesthesia was performed. He was intubated and required a short period of intermittent positive pressure ventilation in the ICU.

Volume overload

A 63-year-old lady with a history of cardiomyopathy with procidentia uteri scheduled for vaginal hysterectomy and repair of the perineum. She was delivered to the ICU after the conclusion of the surgical procedure with a suspected volume overload. She was closely observed and stayed in the ICU for three days.

Postoperative hypoventilation/respiratory failure (Table 4)

From nine episodes of respiratory failure, either oxygenation or hypoventilation failure, occurred in the recovery period. Four patients required reintubation. The first two cases were ophthalmic patients, the first one was a 39-year-old lady who was intubated with pancuronium for muscle correction procedure. She was reintubated shortly on arrival at the RR. The second patient was an older man who was scheduled for repair of retinal detachment. He was also reintubated at the RR. The third patient was a 69-year-old man scheduled for elective PCNL. All three patients required a short-term respiratory support and recovered without complication. The last patient was a scoliotic patient who required emergency appendectomy, it was not possible to extubate her in the operating theater, so she was admitted in the ICU for a week because of the difficulty-to-wean problem.

Volume overload

There were two patients who developed clinical features of volume overload in the recovery period, both of them were admitted to the ICU from the RR. The first patient was an elder woman who underwent uneventful thyroidectomy, she was suspected for development of hyperthyroidism after admission to the RR. She recovered without serious adverse events. While the other patient had the problems of peritonitis, she was admitted to the ICU after the drainage of perinephric abscess, she developed septic shock and required high doses of continuous infusion of epinephrine, and stayed in the ICU for nearly two weeks, however, she was safely discharged from the ICU back to a ward.

Hypotension with confusion

A 71-year-old man who had loosening knee prosthesis was scheduled for a redooperation. Continuous epidural anesthesia was performed, he developed postoperative hypotension with alteration of consciousness at the surgical ward. He was delivered to the ICU, and closely monitored for 4 days, he recovered without sequelae.

Complications which were unavoidable or unpredictable

Unexpected difficult airway (Table 2)

There were two unexpected incidences of difficult intubation. The first of which was a 48-year-old scheduled for elective laparoscopic cholecystectomy. The staff anesthetist who induced this patient had to ask for help from other staff on the same floor of the operating theaters, however, the one who could finally intubate this patient was called from another floor, and blind nasal intubation technique was successfully performed. Although this patient was difficult to intubate, he could be ventilated by mask. He was conscious on arrival at the ICU, breathed spontaneously *via* T-piece and finally he was extubated while an endotracheal tube exchanger was used for a guide in case failed extubation occurred, and he was successfully extubated and spent an overnight stay in the ICU. The second patient was a 48-year-old woman who required emergency appendectomy, multiple intubation attempts were performed and finally she was successfully intubated, she also spent an overnight stay in the ICU.

Regurgitation and aspiration during induction

A 49-year-old woman scheduled for elective modified radical mastectomy, was ventilated by facemask without any problem, when direct laryngoscopy was performed, food particles were found. She was intubated, transferred to the ICU and the operation was cancelled. In the preoperative evaluation period, she did not have any neurologic or GI pathology or underlying diseases. She spent an overnight stay in the ICU.

Bronchospasm

A 47-year-old woman developed severe bronchospasm after rapid sequence induction and intubation with cricoid pressure was performed for emergency exploratory laparotomy. She was transferred to ICU after the conclusion of the operation, and stayed in the ICU for 3 days.

Cardiac arrest (Table 3)

A healthy 52-year-old man scheduled for fixation of fracture of neck femur, developed severe hypotension, which did not respond to the treatment with fluid, including colloid solution, and vasopressors, then antihistamines, chlorpheniramine and ranitidine, were administered together with dexamethasone. The chest compression was performed, the operation was shortened, and he was transferred to the ICU. During the ICU stay, hemodynamics was stable, no vasopressors were required. The investigation specifically for pulmonary embolism was negative, so the cause of cardiac arrest in this patient may be anaphylaxis. He recovered without permanent neurological deficit, and he stayed in the ICU for a week. He had the second admission to the ICU for total hip replacement two months later, and it was for postoperative hemodynamics monitoring (patient 11, Table 6).

Unstable hemodynamics

There was an unexpected hypotensive episode in a 68-year-old man scheduled for elective laparoscopic cholecystectomy. Fluid management and close monitoring was required in the immediate postoperative period in the ICU.

Intraoperative change of ECG

There were two elder women who were transferred to the ICU for intraoperative change of the continuous ECG monitoring, the first patient was scheduled for elective gynecologic malignancy surgery, and the second patient was scheduled for total knee replacement. They did not have any underlying diseases, and were discharged after spending 2 days in the ICU without major complication.

Postoperative hypoventilation/respiratory failure (Table 4)

Five remaining patients who developed unpredictable postoperative respiratory failure are described here. Intrathecal morphine was involved in two patients, one of them was an old woman who underwent uneventful total hip replacement under combined general anesthesia and continuous epidural anesthesia. She was transferred back to her ward, after she was safely discharged from the recovery room. About four hours after the administration of epidural morphine *via* the catheter, she was noted to be hypotensive and unresponsive to voice by a nurse who intended to have her vital signs recorded. She was eventually intubated and transferred to the ICU, and ventilator support was required for two days in the ICU. While the other patient was scheduled for total knee replacement, she was also delivered to the ICU from the surgical ward, however, closed monitor only was required for the management in ICU. Both patients recovered without major complications.

A healthy 27-year-old man was intubated and transferred to ICU from a surgical ward within 24 hours after an emergent exploratory laparotomy was performed for the resection of bowel gangrene. He was accidentally diagnosed of massive rhabdomyolysis in the ICU, then a history of amphetamine addiction was obtained from his mother. Hemodialysis was required for management of this complication, and he eventually recovered without morbidity. He stayed in ICU for nearly a week.

Two patients developed severe hypoxemia in the recovery room, the former was a 20-year-old pregnant woman after cesarean delivery under spinal anesthesia. The latter was a healthy 24-year-old man who underwent an emergency appendectomy. The noninvasive positive pressure ventilation was attempted to improve the oxygenation in this patient. Both of them had an overnight stay in ICU.

Postoperative hypotension

An elder man developed postoperative hypotension and alteration of consciousness in the surgical ward after uneventful total knee replacement was

performed under continuous epidural anesthesia. He was transferred to ICU, and stayed for 3 days. His symptoms of confusion completely recovered without permanent injury.

Severe bronchospasm

Two elder patients were reported to have severe bronchospasm in the recovery period. The first patient underwent endoscopic procedure under monitored anesthesia care, and the second patient developed bronchospasm during the emergence period after debidement for decubitus ulcer. They stayed in ICU for an overnight and two days, respectively.

Dyspnea and desaturation

A 66-year-old woman developed dyspnea in the immediate postoperative period, she was transferred to ICU from RR. She stayed in ICU for 3 days without major morbidity.

Complications which are not anesthesia-associated complication

The rationale for unplanned admissions to the ICU in patients with complications which did not result from anesthesia-related causes are shown in Table 5, and Table 6 shows the rationale for unplanned ICU admission of patients in whom postoperative close hemodynamics or respiratory monitoring was required.

DISCUSSION

The unplanned admission to ICU has been selected as one of quality control indicators of our department performance. As an important indicator, the audit of unplanned admission to ICU helps us to improve the process of care and result in better data collection process and evaluation of the results. In order to obtain the data accuracy, the definition of this indicator should have been made by a consensus

Table 5. The rationale of the predictability and preventability of the unplanned ICU admission.

Patient	Predictability	Preventability	Rationale
1	Unpredictable	Non-preventable	Postoperative cardiac arrhythmias
2			Ruptured trachea, intraoperative cardiac arrest
3			Operative plan change, hepatectomy
4			Postoperative myocardial ischemia, interventional radiology
5			Acute atrial fibrillation, transurethral prostate resection
6	Predictable	Non-preventable	Massive hemorrhage, major gynecologic procedure
7			Postoperative bleeding with coagulopathy, bone tumour
8			Perforation of bile passage post endoscopic procedure
9			Massive hemorrhage with intra-abdominal packing, major gynecologic procedure
10			Prolonged operation, plastic surgery
11			Cesarean hysterectomy, abruption of placenta
12			Short-term respiratory support, bowel obstruction
13			Septic shock, diabetes mellitus
14			Ischemic heart disease, elective laparotomy
15			Respiratory support, relapsing polychondritis, trecheomalacia
16			Septic shock, colonic obstruction
17			Hypotension, laparotomy for perforated viscus
18			Septic shock, gall stone, acute cholecystitis
19			Respiratory support, pleural effusion and mediastinal mass
20			Septic arthritis, septic shock
21			Morbid obesity, head-neck procedure
22			Septic shock, acute cholangitis
23	Unpredictable	Preventable	Alteration of consciousness, hyponatremia, vascular surgery
24			Respiratory support, wound dehiscence
25	Predictable	Preventable	Hemodynamics instability, bowel obstruction
26			Inappropriate fluid management, ectopic pregnancy
27			Inappropriate fluid management, ectopic pregnancy
28			Hemodynamics and respiratory support, beeding post kidney transplation
29			Respiratory support, upper abdominal surgery
30			Hemodynamics instability, peritonitis
31			Volume overload, peritonitis

Table 6. The rationale of the unplanned ICU admission due to postoperative monitoring requirement.

Patient	Age	Sex	Rationale
1	75	F	Ischemic heart disease, laparoscopic cholecystectomy
2	72	M	Lower limb amputation, acute arterial occlusion
3	87	F	Unstable angina, congestive heart failure, laparotomy
4	24	F	ESRD, hypotension, post hemiarthroplasty
5	84	F	Respiratory monitor, open cholecystectomy
6	52	M	Post total hip replacement
7	77	F	Minor urologic procedure
8	20	M	Maxillofacial injury, right pneumothorax
9	64	M	Total hip replacement, unstable angina
10	32	F	Emergency laparotomy, ovarian cyst
11	52	M	Total hip replacement, previous intraoperative anaphylaxis
12	31	F	ESRD, termination of pregnancy
13	29	M	Elective laparotomy of upper abdomen

M = male, F = female, ESRD = end staged renal disease

from all ICU staff members, continuous review of patient's chart, and the record form should be available.

In our study there were 80 unplanned admissions to ICU, these happened in 10,231 operations qualified to admit at our unit (0.78% incidence). These admission were the sum of 36 anesthesia associated complications and 44 patients who came from surgical complications, primary underlying conditions and pathology, and patients in whom close postoperative monitoring was considered to be necessary. Nineteen patients from anesthesia related subgroups were considered as partially or wholly avoidable, while 9 patients from 31 patients were considered preventable. The incidence of unplanned ICU admissions have been previously reported with wide range (0.04% to 0.42%)[3-6] because of different definition criteria.

It is worth noting that unplanned ICU admission from elective operations, including elective 11 of 13 patients who were closely monitored, is noted to be double in size compared to patients who received emergency procedures. It is likely that elective patients may receive better screening by staff during the normal working hours, or they were detected early due to an adequate working force compared to emergency patients.

Cardiovascular causes are the main reason for unplanned ICU admission in our report, the main patient group was unstable hemodynamics with predominant hypotensive episodes from either predicted causes such as acute abdomen, or unexpected intraoperative change of ECG. We did not have patients admitted because of hypertension like a report from Rose, et al who reported that hypertension and tachycardia resulted in more unplanned critical care admissions, and higher mortality[7].

In patients who had unplanned ICU admissions from cardiac arrest, we need improvement especially in the avoidable causes, because cardiovascular events do not generally happen unexpectedly, they are often preceded by slow deterioration in patient's condition[8]. In a recent report, 76 per cent of in-hospital cardiac arrest episodes were found to have unstable clinical status at least one hour before the event[9].

Appropriate intravenous fluid therapy appears to be another topic area in which improvement is needed either inadequate or volume overload. Seven out of nine patients who were judged to have a preventable unplanned admission to ICU (Table 5) were given inappropriate intravenous fluid therapy, they were hemodynamically unstable and scheduled for emergency procedures. This pattern of outcomes requires attention and improvement. The outcome may be improved by distribution of the collected data to wider staff not only the ICU team, Swann, et al suggested that academic activities such as audit meeting and grand rounds may be a means of outcome improvement[5].

The large group of patients admitted to ICU from respiratory causes was a result of postoperative ventilatory inadequacy; including two patients scheduled for ophthalmic procedures and one patient after kidney procedures. In all these three patients

inadequate reversal of muscle relaxant may play an important role for the cause. Cooper, et al recommended that the morbidity after inadequate ventilation can be improved in elderly patients scheduled for laparotomy by elective ventilator support rather than trial of reversal of muscle relaxants and extubation[3]. This concept is also applicable to one scoliotic patient and a healthy man who developed repiratory failure from the ward. While delayed respiratory depression from intrathecal or epidural opioids is also noteworthy, it is not a common complication, however it now becomes a standard of perioperative pain management and it can bring serious subsequent complications with permanent morbidity.

Polanczyk, et al show that elderly patients had a higher risk for major perioperative complications from noncardiac surgery[10], and this may result in this age group being accepted for unplanned ICU admission judged as requiring postoperative monitoring in a higher proportion. Although some of this patient subgroup may do better than the younger patients in terms of severity and outcome, however, these low-risk monitoring patients should not be excluded from ICU admission because the development of complications may be delayed and require continuous care for immediate detection. These patients may benefit from the use of an intermediate care unit facility, however, our hospital has not yet organized such a unit. Now our ICU has been expanded to full capacity, so the improvement for this circumstance is likely to improve the care of postoperative patients in surgical wards by developing an area for higher priority care.

In conclusion, this indicator has provided us with important data on our standards of intraoperative anesthesia management as well as postoperative care in the ICU. It definitely has an impact on our anesthesia service and provides opportunity for improvement and better resource utilization in the cost-constrained era. We hope to report a reduced incidence of this problem in the near future, because this may result from increased awareness and alertness in our patient care.

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ผู้ป่วยที่รับไว้ในหออภิบาลศัลยกรรมโรงพยาบาลศิริราชโดยไม่คาดหมาย

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ภูมิหลัง : ผู้ป่วยที่รับไว้ในหออภิบาลศัลยกรรมควรได้รับการวางแผนล่วงหน้า ทั้งการผ่าตัดชนิด elective และผ่าตัดฉุกเฉิน เพราะทำให้ทีมแพทย์ผู้ดูแลผู้ป่วยในหออภิบาลสามารถคาดเหตุการณ์ที่อาจเกิดขึ้นได้ เพื่อเตรียมพร้อมรับกับสถานการณ์ได้อย่างเหมาะสมและทันท่วงที อย่างไรก็ตามผู้ป่วยที่ไม่ได้คาดหมายว่าจะรับไว้ในหออภิบาลอาจเกิดขึ้นได้

วัตถุประสงค์ : เพื่อศึกษาผู้ป่วยกลุ่มที่ไม่ได้คาดหมายว่าจะรับไว้ในหออภิบาลศัลยกรรม เพื่อการควบคุมคุณภาพของงานบริการหออภิบาล

วิธีการ : เลือกศึกษาผู้ป่วยที่ได้รับการรับไว้ในหออภิบาลศัลยกรรมโดยไม่ได้คาดหมาย ตั้งแต่เดือนมิถุนายน 2544 ถึง พฤศจิกายน 2544 เพื่อหาสาเหตุของการรับไว้ในหออภิบาล สถานที่ส่งผู้ป่วยมายังหออภิบาล และขนาดปัญหาของสาเหตุที่สัมพันธ์กับงานบริการวิสัญญีวิทยา

ผลการศึกษา : ในช่วงเวลาที่ศึกษา 6 เดือน ผู้ป่วย 11,684 ราย ได้รับการผ่าตัดโดยภายใต้งานบริการวิสัญญี โดยมีผู้ป่วย 520 รายได้รับไว้ในหออภิบาลศัลยกรรม พบว่ามีผู้ป่วยที่รับไว้ในหออภิบาลโดยไม่ได้คาดหมายจำนวน 80 ราย ผู้ป่วยส่วนใหญ่มาจากห้องผ่าตัด (65 ราย) บางส่วนมาจากห้องพักฟื้นและหอผู้ป่วย สาเหตุส่วนใหญ่ของการรับไว้ในหออภิบาลโดยไม่คาดหมาย คือความผิดปกติของหัวใจและระบบไหลเวียนเลือด 36 ราย ความผิดปกติของระบบทางหายใจ 29 ราย โดยพบว่าสาเหตุของการรับผู้ป่วยไว้ในหออภิบาลศัลยกรรมที่สัมพันธ์กับงานบริการวิสัญญีนั้นพบได้ในผู้ป่วย 36 ราย

บทสรุป : การควบคุมคุณภาพงานโดยใช้ดรรชนีชี้วัดที่เหมาะสม สามารถบอกได้ถึงตำแหน่งของขบวนการดำเนินงานที่สมควรได้รับการปรับปรุง อัตราของการรับผู้ป่วยไว้ในหออภิบาลโดยไม่คาดหมายมีส่วนช่วยในการปรับปรุงงานบริการทั้งในห้องผ่าตัดและในหออภิบาล ดรรชนีตัวนี้ควรได้รับการเฝ้าระวังต่อไป

คำสำคัญ : ผู้ป่วยศัลยกรรม, หออภิบาล, การควบคุมคุณภาพงาน, งานบริการวิสัญญีวิทยา

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