

Short Report

Unanticipated Hospital Admission after Ambulatory Surgery

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Abstract

The unplanned admission rate is considered to be an important measure of the quality of ambulatory surgical units. The objective of our study was to evaluate the unanticipated hospital admission rate from the Surgical Day Care (SDC) unit of our university affiliated teaching hospital and to analyze the reasons for admission.

A review of all unanticipated admissions over a one-year period was done. The admission rate was calculated and the reasons for admission were analysed. The overall admission rate was 4.93%. Most of the admissions were ordered by the surgeons (97%). The main reasons for admission were patient observation indicated for various reasons (72%) and patient request (18%). Eighty percent of the admitted patients had received general anaesthesia. Admissions were also related to the male gender (69%), age over 65 years (27%) and surgeries ending in the afternoon (69%).

On analyzing the reasons for admission, a large number of admissions were found to be due to preventable causes. We conclude that proper selection of patients, careful scheduling of lists and education of patients and clinical professionals can help to avoid many unanticipated admissions after day care surgical procedures.

Introduction

With ongoing advancement in anaesthetic techniques and introduction of minimally invasive surgical procedures, day care facilities are growing both in quantity and complexity.^{1,2} Performing more procedures as day cases helps to reduce health care costs. It also makes the hospital experience less traumatic for the patients.¹ In the face of this increase in case-load, it is important to maintain a high quality of care and ensure patient safety.

The unplanned admission rate is one measure of the quality of ambulatory surgery.¹⁻⁶ When assessing the unplanned admission rate, the various reasons for admissions should be explored so as to identify the preventable elements and find solutions to avoid them. The purpose of our study was to monitor the quality of care at the surgical day care (SDC) centre of our university affiliated teaching hospital, using unanticipated admissions as a criterion.

Methods and Results

Our surgical day care unit is within the hospital but

is separate from the main operating room (OR) suite. It consists of an eighteen bedded day surgery ward, three ORs and a 3 bedded recovery room. The surgical specialties using the unit include ophthalmology, general surgery, urology, ear, nose, throat (ENT), paediatric surgery, plastic surgery, orthopaedics, minor vascular surgery, and paediatric oncology and endoscopy. After satisfactory discharge from the post-anaesthesia care unit (PACU) the patients are sent back to the DI ward from where they are discharged home by a trained registered nurse on the basis of set criteria.

All patients having their operations performed in the SDC ORs between September 1, 2002 and September 30, 2003 were included in our study. Data for two months (January and February 2003) could not be collected as SDC ORs were being refurbished. A specified SDC nurse filled out a pre-designed form for every patient who was admitted from the SDC unit. The information collected included patient's demographic characteristics, American Society of Anaesthesiologist (ASA) physical status score, surgical procedure, type and duration of anaesthesia and surgery, start of surgery time, and surgical specialty. The reason for admis-

Table 1. Unanticipated admission rate according to surgical sub-specialty.

Sub-specialty	No. of admissions	Percentage
General Surgery	84	38
Paediatrics	26	12
Ophthalmology	31	14
Urology	26	12
Orthopaedics	19	9
ENT	12	6
Gynaecology/Obstetrics	5	2
Dental	1	0.5
Pain Management	1	0.5
Missing	14	6
Total	219	100

sion, the physician (sub-specialty) ordering the admission and the presence of any complications were also recorded. The data was analyzed by the investigators and the rate of unanticipated admissions was calculated as a proportion of the total operations performed in the SDC unit. The reasons for admissions were analyzed.

A total of 4440 procedures were performed in the day care operating rooms during the study period. Out of these 3293 (74.16%) procedures were performed under local anaesthesia, while 1147 (25.8%) patients received either general or regional anaesthesia, 2 patients were given monitored anaesthesia care (MAC) and 219 patients were admitted to the hospital postoperatively. This gives an admission rate of 4.93%.

Table 2. Reasons for unanticipated admissions from the day care surgical unit of a university affiliated teaching hospital.

Reasons for admission	No.	Percentage
Patients request	39	18
Observation	158	72
- nasal bleeding		
- pain		
- nausea/vomiting		
- vertigo		
- diarrhoea		
- seizure activity		
- bladder irrigation		
- haematoma		
Pain	8	3.65
Surgery after 1600 hours	4	2
Bleeding	1	0.45
Others	7	3
Missing	2	1
Total	219	100

The majority of patients admitted were above 65 years of age (60/219). Other age groups showed an equivalent rate of admissions. The ASA physical status of the patients admitted was ASA I 100/219, ASA II 68/219, ASA III 15/219, ASA IV 4/219. This correlates with the physical status of our day surgical population. The highest admissions were needed for general surgical, ophthalmological and paediatric procedures (Table 1). There was a predominance of the male gender in the patients admitted (151 compared to 65). Out of the 219 admissions, 175 (80%) patients had received general anaesthesia, 32 (15%) had undergone

procedures under local anaesthesia, five patients had spinal blocks, one had a combined spinal/epidural block and two patients had received MAC.

The highest number of admissions occurred in patients whose operations ended in the afternoon (108/219); 97% (212) of the admissions were ordered by the surgeons. Patient's request [39 (18%)] and need for observation [158 (72%)] were found to be the main reasons for admission (Table 2) whereas pain [8 (3.65%)] and bleeding [1 (0.5%)] contributed to a much smaller number of admissions.

Comments

It is very important to monitor and maintain the quality of care in day-care surgery. Analysis of the reasons for admission is important so that the preventable causes can be identified and avoided to improve the efficiency of ambulatory surgical centres.

Many of the above reasons mentioned for admission in our study could be avoided by alteration in management or better selection of patients. Administration of intravenous antibiotics can be arranged at home. Good pain management is a challenge in day surgical patients. A multi-modal approach with narcotic and non narcotic agents and use of local anaesthetics (infiltration, intra-articular injection etc.) will help to decrease the number of admissions due to inappropriate pain relief.⁷

There is a scarcity of organized medical auxiliary support system or general practitioner support system in our country and this makes the patient and his family nervous about going home on the day of their operation. Better selection criteria and adequate counseling and education of the patients would help to reduce admissions due to these reasons.

References

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