



Unplanned admissions following ambulatory plastic surgery – a retrospective study

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ABSTRACT

INTRODUCTION Admission for overnight or longer hospital stay from a day-case unit is an unwelcome event. This audit was designed to identify the incidence of unplanned admissions and also to detect the potential factors for such overstays.

PATIENTS AND METHODS Details of plastic surgical day-case patients were obtained from the hospital records for a period of 6 months (February 2002 to July 2002).

RESULTS The total number of unplanned admissions was 28 (3.55%). High rates were recorded in patients above the age of 80 years, male patients and body mass index > 30 kg/m². Duration of surgery (> 45 min) and waiting time in the day surgery unit (> 2.5 h) had significant correlation with the overstays. Grade of the surgeon was not an important determinant factor. Of procedures which resulted in an unexpected admission, the most frequent were otoplasty (8.4%; *n* = 71) and fasciectomy for Dupuytren's contracture (14.5%; *n* = 41). Unexpected admissions were also high following rhinoplasty and nipple reconstruction but the total number of operations performed were not significant (*n* = 12 in each group). Overall, the cause of the overstays were mostly surgical (71.4%) followed by anaesthetic (28.5%) and social (7.1%).

DISCUSSION With an overall unplanned admission rate of 3.55%, our unit is close to the national standard of 2–3%, as advocated by The Royal College of Surgeons of England. Postoperative bleeding (60%) was the most important surgical reason for overstays followed by intravenous antibiotics, wound drainage, excessive duration of the procedure and additional, unplanned procedures. Among the anaesthetic factors, postoperative pain was the leading cause (62.5%) followed by nausea, vomiting and adverse anaesthetic reaction.

CONCLUSIONS The reasons for unplanned admissions are multifactorial and merit appropriate patient selection and proper estimation of the disease process.

KEYWORDS

Day-case surgery – Unplanned admissions – Plastic surgery

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Day-case surgery has been a part and parcel of various specialities in the NHS. Today it is the 'modern', 'effective' and 'economical' weapon of delivering patient care in the speciality of plastic surgery. The benefits include reduction in the cost of hospital admission, shorter waiting time for surgery, minimal disturbance to the patient's routine, lower risk of nosocomial infection and faster social and economic rehabilitation. However, admission for overnight or longer hospital stay from the day-case unit is an unwelcome event, both for the patients and the patient care providers. Overall incidence of such unexpected admissions should be less than 2–3%, according to the guidelines for day-case surgery.¹ We have reviewed the pre-operative, intra-operative and postoperative data of all plastic surgical day-cares in our unit over a period of 6 months (February 2002

to July 2002) to identify the incidence of unplanned admissions and also to detect the potential factors for such overstays.

Patients and Methods

Details of plastic surgical day-case patients in the scheduled period were obtained from the hospital records. In-patient admissions from the day-case unit (DSU) were recorded from the day-case theatre register. Demographic data of such patients, anaesthetic and operative notes, waiting time in the DSU before operation, duration of surgery and reasons for admission (surgical, anaesthetic or social) were obtained from the case notes of all the patients who were admitted to the in-patient ward.

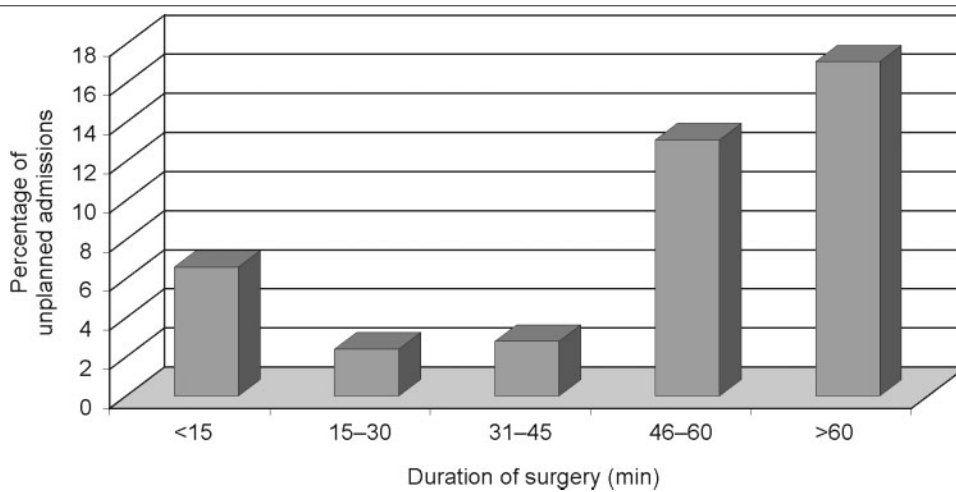


Figure 1. Relationship between overstay and duration of surgery.

Results

The total number of plastic surgical operations performed in the 6-month period was 787. Median age was 52 years (range, 4–95 years) and 61.2% of the total patients were male. Median body mass index (BMI) was 25 kg/m² (range, 18–34 kg/m²). Of the operations, 64.3% were under a general anaesthetic (ASA grade 1 and 2). Median waiting time in the DSU was 75 min (range, 30–310 min). Median duration of surgery was 40 min (range, 10–65 min).

The total number of unplanned admissions was 28 (3.55%). High rates were recorded in patients above the age of 80 years, male patients and BMI > 30 kg/m². Duration of surgery (> 45 min) and waiting time in the DSU (> 2.5 h) had significant correlation with the overstays (Figs 1 and 2). Grade of the surgeon (consultant, middle grade or senior house officer) was not an

important determinant factor. Regarding the procedures which resulted in an unexpected admission, the most frequent were otoplasty (8.4%; *n* = 71) and fasciectomy for Dupuytren’s contracture (14.5%; *n* = 41; Fig. 3). Unexpected admissions were also high following rhinoplasty and nipple reconstruction but the total number of operations performed were not significant (*n* = 12 in each group). Overall, the cause of the overstays were mostly surgical (71.4%) followed by anaesthetic (28.5%) and social (7.1%) as summarised in Table 1.

Discussion

Expansion of the DSU in recent years is aimed at the performance of almost 50% of all elective procedures. In our unit, this figure was 42% in the targeted time period. The quality assurance of the day surgery cases depends on the meticulous selection of patients, minimising complication rates and active involvement of the anaesthetists thereby avoiding the unwelcome unplanned admissions.^{1,2} In our unit, the surgeon is responsible for the initial triage using these guidelines; this is reconfirmed by the day-case staff on the day of surgery.

With an overall unplanned admission rate of 3.55%, our unit is close to the national standard of 2–3%, as advocated by The Royal College of Surgeons of England.^{3,4} In general, this reflects an efficient delivery by our medical and nursing staff. However, there is scope for improvement to achieve the ideal range, particularly with reference to certain factors and operations.

Postoperative bleeding (60%) was the most important surgical reason for overstays followed by intravenous antibiotics, wound drainage, excessive duration of the procedure and additional, unplanned procedures. Bleeding

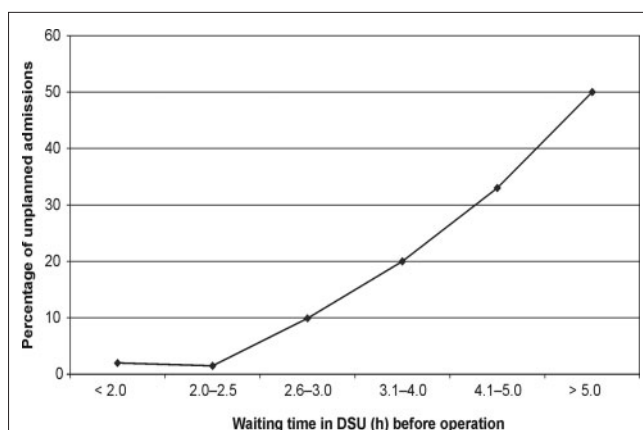


Figure 2. Relationship between overstay and waiting time in the day-case unit.

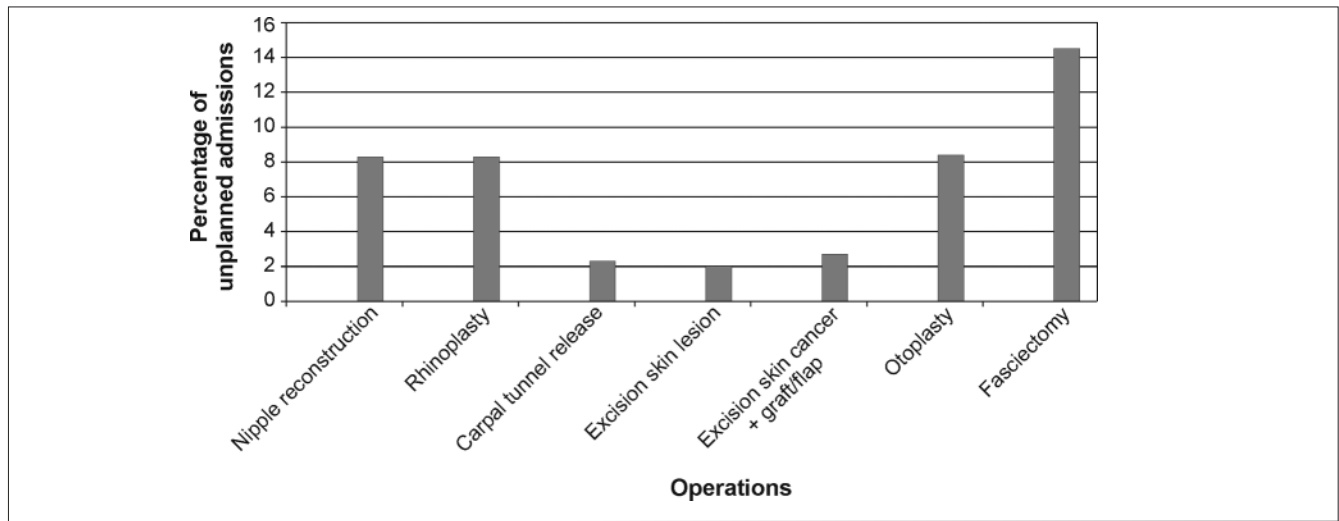


Figure 3. Procedures resulting in unplanned admissions.

Surgical	20
Bleeding	12
Intravenous antibiotics	4
Wound drain	2
Additional procedures	2
Anaesthetic	6
Pain	4
Nausea and vomiting	1
Reaction	1
Social	2
Lives alone	1

was particularly linked to otoplasty. Although most were treated conservatively, one patient had to return to theatre for evacuation of haematoma.

Among the anaesthetic factors, postoperative pain was the leading cause (62.5%) followed by nausea, vomiting and adverse anaesthetic reaction. This can be minimised with more extensive use of local nerve blocks and proper assessment by the anaesthetic team. Two patients were admitted for social reasons (no home support), probably not picked up at the time of pre-operative assessment.

Surgical intervention in the sensitive patient provokes significant anxiety and distress. This can be further elevated

by an excessive waiting period and lack of information.² Prolonged waiting time, especially in the afternoon session, is an important factor for unplanned admissions, as reflected in our study. This is because of lack of adequate time to recover postoperative patients. A high index of suspicion is required for all procedures requiring more than 30 min. Also, when the procedure takes longer than the anticipated time, a ‘domino effect’ takes place and the rest of the planned patients are postponed or cancelled for the day.² We were surprised by the high rates of post-otoplasty and post-fasciectomy unplanned admissions. We have also learnt that such overstay are multifactorial and merit appropriate patient selection and proper estimation of the disease process. Apart from the physical and psychological consequences, these admissions have significant cost implications. Therefore, with the help of the local statistician, we shall conduct a prospective study of another cohort, using a scoring system (Durham Score) as an adjunct to the selection criteria, especially for borderline patients.

References

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