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Medical audit

Unexpected overnight admissions following day-case surgery: an analysis of a dedicated ENT day care unit

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Day-case surgery is an integral part of otolaryngology, and many procedures can be performed as day-cases provided strict criteria are applied in the selection of patients. We reviewed patients who required unexpected admission from the day-case unit at the Royal National Throat, Nose and Ear Hospital, London between April 1997 and March 1998. The total number of patients undergoing surgery was 1642. Of the total, 29 (1.8%) had to be admitted unexpectedly for overnight stay: 24 of these patients had undergone nasal surgery, representing 5.4% of all the nasal procedures performed – and the cause of all these admissions was haemorrhage. Further analysis revealed 22 of these 24 nasal operations had included a septoplasty. The total number of septoplasties performed was 163; thus, septoplasty had an unexpected admission rate of 13.4%. This information has been used to formulate stricter guidelines for day-case septoplasty admissions in our unit.

Key words: Day surgery – Nasal septum surgery – Unexpected admissions – Otolaryngology

Day-case surgery is well established throughout the UK and is suitable for operations that require a short general anaesthetic and do not carry the risk of postoperative complications needing management in hospital.[1] Many ear, nose and throat procedures can be safely performed as day-cases. Day-case surgery offers significant advantages to the patient including a shorter waiting time for surgery, lower risk of cross infection, minimal disruption of routine and a more rapid social and emotional rehabilitation compared with in-patient stay.[2,3] Moreover, the hospital costs are lower and there is no evidence of adverse effects from extra care of patients at home or outcome differences compared with the same procedures being performed on an in-patient basis.[4]

In recent years, the perceived benefits of day-case surgery have resulted in many otolaryngologists performing adenoidectomy, tonsillectomy and septoplasty procedures as day-cases. The Audit Commission has previously highlighted the importance of measuring the

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quality of services offered to patients.[5] Clinical governance and the need to maintain quality assurance mean that now, more than ever before, otolaryngologists must assess their rationale for day-case surgery.

Admission to hospital after day-case surgery may be due to anaesthetic, surgical or social grounds. The overall incidence of unplanned in-patient admission should be less than 2–3%.[1] At the Royal National Throat, Nose and Ear Hospital (RNTNE) we have a dedicated day care unit. We reviewed all day-cases performed over a 12 month period between April 1997 and March 1998, to identify the incidence and causes of unexpected admissions with the aim of identifying factors that could be modified to improve the quality of care.

Patients and Methods

Patient details and the operations performed in the day-case unit between April 1997 and March 1998 were obtained from the hospital database. Unplanned overnight admission details were collected from the day-case theatre records. The operative details, reasons for admission and additional information were obtained from the case notes of all patients who were re-admitted.

Results

The total number of operations performed in this 12 month period was 1642. Figure 1 shows the number of operations performed categorised by site: ear; nose and sinuses; throat and neck; and miscellaneous. Of the total, 29 patients (1.8%) had to be admitted unexpectedly for overnight observation. Four cases were admitted either on the anaesthetist's or surgeon's request or for social reasons. One patient was re-admitted from home on the day of surgery due to a reactionary haemorrhage. In the remaining 24 cases, the cause of admission was haemorrhage, observed in the immediate postoperative period. No patients were admitted because of nausea and vomiting or pain. Table 1 illustrates the association of operation performed and postoperative haemorrhage. Of the 25 cases of bleeding, 24 followed nasal procedures

Table 1 Postoperative haemorrhage and its association with the procedures performed

Septoplasty alone	10
Septoplasty with inferior turbinate surgery	12
Nasal polypectomy	2
Excision of a lesion on the pinna	1

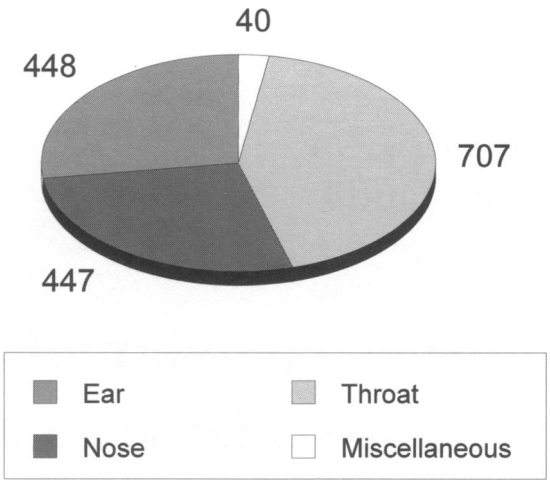

Figure 1 The total number of operations performed in ear, nose and sinuses, neck and throat and miscellaneous categories

representing 5.4% of the total 447 nasal procedures performed during the year.

Data regarding septoplasty are the most revealing. The total number of septoplasties performed was 163, comprising septoplasty as a single procedure in 97 cases and septoplasty with inferior turbinate surgery in 66 cases. Of all septoplasty cases, 22 (13.4%) were admitted overnight because of continued haemorrhage. Ten of the 97 patients who had septoplasty alone needed re-admission (10.3%) compared with 12 of the 66 patients who had septoplasty with inferior turbinate surgery (18.1%; Table 2). There did not seem to be any clear correlation between the nature of the turbinate surgery or the length of time the packing remained *in situ* and the likelihood of haemorrhage. No patient is discharged home from the day-case unit with a nasal pack in place. All the patients who were admitted were treated conservatively and discharged home on the following day. None received a blood transfusion.

Table 2 The incidence of bleeding following septoplasty with or without inferior turbinate surgery

Procedure	Number of cases	Number of haemorrhages
Septoplasty as a single procedure	97	10
Septoplasty with inferior turbinate surgery	66	12
Total	163	22
Overall incidence	13.4%	

Discussion

Day surgery is performed on patients who are admitted for investigation or operation on a planned non-resident basis.[1] It is said that nearly 50% of all surgical cases can be performed as day-cases, but day surgery facilities are often under-utilised[4] and, in 1990, the figure was closer to 34% for all specialities.[6]

The proportion of ENT surgery performed on a day-case basis has risen from 15.3% in 1988/1989 to 23.8% in 1993/1994.[6] However, there is great regional variation in facilities and attitudes.[7] In 1992, the Audit Commission identified a target rate of 50% for submucous resection in adults,[6] yet, in 1993/1994, the proportion of septal surgery performed as day-cases in England was only 1.5%.[8] One reason for this low rate of day-case septoplasty may relate to concerns of complications by surgeons.

The management and quality of day surgery care depends on careful selection of patients, minimising complication rates and avoiding unexpected admissions with consequent disruption of inpatient services. The day surgery unit at the RNTNE is a purpose-built unit with a six-bed recovery area and a six reclining chair pre-discharge bay. Patients are initially selected as suitable by the surgeon in out-patients using agreed protocols. These patients are subsequently interviewed by the day care nursing staff based on guidelines issued by The Royal College of Surgeons of England.[1] These guidelines include social factors, fitness for day surgery and patient opinion. Access to an anaesthetic opinion is readily available when fitness for day surgery is in doubt.

This study confirms that, with an overall unplanned admission rate at 1.8%, our day-case unit is performing well above the national standard of 2–3%, as published by The Royal College of Surgeons of England.[1] In general, this reflects the careful selection of appropriate patients to the day care unit. However, we also identified that most admissions were due to immediate postoperative haemorrhage following septoplasty with or without inferior turbinate surgery and that the rate of this was 13.4%. This figure appears high; however, there are no national standards available for comparison. One study of 163 cases showed a 4% overnight admission rate following septoplasty because of haemorrhage.[9] Another reported performing septoplasty as a day-case, but using local rather than general anaesthesia.[10]

There is no overall consensus regarding the need for nasal packing after septal surgery. A literature review failed to identify any reports on the role of nasal packing in day-case septoplasty. One study[11] investigated in-patients whose nasal packs were removed after 2 h, 6 h and 24 h. It concluded that the patients' acceptance for day-case septoplasty would be 76% if the packs were removed after 2 h, 57% after 6 h and 44% after 24 h. The overall acceptance rate was 58%. Their study postulated that early pack removal and patient discharge could be considered safe practice, but was not conclusive for the day-case environment. Our study also failed to come to a conclusion regarding the effect of nasal packing due to its retrospective nature and the heterogeneity of procedure and technique. Similarly, there were no associations between any individual surgeon or grade of surgeon and postoperative haemorrhage. It may well be that the key factor to postoperative haemorrhage is length of time with pack *in situ*, postoperatively. We suggest a prospective study on this issue in the day-case unit environment.

Our study demonstrated that very few patients required admission for social (2/1642) or anaesthetic (1/1642) indications. No patients were admitted with pain or vomiting. This is achieved by strict adherence to the guidelines by the day care nurses and by establishing accurate social histories before accepting patients as day-cases. It also suggests a high sensitivity of the anaesthetists to the needs of day-case surgery.

We were surprised by the high incidence of post-septoplasty unexpected admissions found in this review of 12 months of day surgery. However, the overall number (22 in one year) represents less than one unexpected admission per fortnight, and there is no advantage in keeping a bed free under those circumstances. There is a high level of patient acceptance of day-case septoplasty coupled with significant savings and shorter waiting lists assured by operating in day surgery. The possible minor disruption to the running of the main theatre due to the occasional unexpected admission does not warrant an immediate change in the policy of day surgery for these patients. Nevertheless, we should aim to reduce the relatively high level of septoplasty admissions. Given the findings of this retrospective study, we recommend a prospective analysis of the correlation between packing duration and technique and the incidence of significant haemorrhage; concomitantly, a prospective study to determine if the surgical technique, particularly the use of apposition sutures, is associated with unexpected admission to the ward.

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