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Main Article

Endoscopic sinus surgery as day-case procedure

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Abstract

Objective: Functional endoscopic sinus surgery is the mainstay of surgical treatment for chronic sinusitis. Day-case surgery has the advantage over in-patient surgery of being cost-effective and resource sparing. The objectives of this study were to assess our results for day-case functional endoscopic sinus surgery.

Methods: This was a retrospective case note review of day-case functional endoscopic sinus surgery procedures performed at Leeds General Infirmary from February 2004 to February 2007. We recorded patients' demographic data, operative details, post-operative course and follow-up results.

Results: A total of 105 day-case functional endoscopic sinus surgery procedures were included in the study. Patients' ages ranged from 16 to 93 years; 44 (41.9 per cent) were female and 61 (58.1 per cent) were male. Of these patients, 39 (37.1 per cent) had chronic sinusitis and the rest (66; 62.8 per cent) had nasal polyposis and sinusitis. Sixty-one patients (58.1 per cent) underwent surgery on the morning operating list, while the rest (44; 41.9 per cent) underwent surgery in the afternoon. Of the 105 patients, 24 (22.8 per cent) had undergone previous nasal surgery. The majority of patients (90/105; 85.7 per cent) were discharged on the same day as surgery. The only complication recorded in this study was bleeding, noted in seven patients (6.7 per cent). At the follow-up appointment, 90/105 (85.7 per cent) patients were satisfied with their post-operative results.

Conclusions: Day-case endoscopic sinus surgery can be performed safely as a day-case procedure. The most important factors for a successful outcome are correct patient selection, in terms of general health and social circumstances, and a dedicated day-case team.

Key words: Paranasal Sinuses; Otorhinolaryngologic Surgical Procedures; Endoscopy; Ambulatory Surgical Procedures

Introduction

Chronic sinusitis is one of the most common health problems in Western countries and is estimated to affect 5–15 per cent of the adult urban population.[1,2] Functional endoscopic sinus surgery (FESS) is the mainstay of surgical treatment for this condition.[2,3]

Day-case surgery is on the increase in the UK. This rise has been a product of advancing medical technology, a better understanding of which procedures can be performed safely as day cases, and increasing pressure applied to streamline hospital care. Day-case surgery has the advantage over in-patient surgery of being cost-effective and resource sparing. It has been promoted by the UK Department of Health, which wants 75 per cent of all procedures to be performed in a day-case setting by 2010.[4]

Evaluation of day-case surgery has tended to focus on the hospital perspective, i.e. comparing its effectiveness and acceptability with that of traditional in-patient care.[5,6] The reported benefits of day-case surgery for patients include reduced waiting times, booked appointments and care in dedicated facilities.[7,8] However, caution exists as to the perceived benefits.[9,10]

The aim of this study was to produce objective and subjective data on the feasibility of day-case FESS.

Patients and methods

This study comprised a retrospective case note review conducted at Leeds General Infirmary, UK. The endoscopic sinus surgery procedures were carried out between February 2004 and February 2007. In Leeds General Infirmary at the time of the study, most FESS procedures were performed as day-case procedures.

All the procedures were carried out under general anaesthetic, using standard FESS techniques. Topical spray containing phenylepherine and lignocaine was used for decongestion just before the operation. A topical solution of 1:10 000 adrenaline on patties was used for vasoconstriction. The operating surgeon assessed the patient on the ward post-operatively. Patients were considered suitable for

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discharge if they were fully mobile, free of nausea, able to eat and drink, had well controlled pain, and were not actively bleeding.

The details of day-case FESS operations were obtained from the medical records coding department. Patients' case notes were reviewed. Details regarding patients' demographics, operative details and post-operative recovery were recorded. Details of six-week clinic follow up were also noted.

Results

A total of 105 day-case FESS procedures were included in the study. All patients were admitted to a dedicated day-case ward for pre- and post-operative care. Patients' ages ranged from 16 to 93 years; there were 44 (41.9 per cent) females and 61 (58.1 per cent) males. Of these patients, 39 (37.1 per cent) had chronic sinusitis or attacks of recurrent acute sinusitis, and the rest (66; 62.8 per cent) had nasal polyposis and sinusitis. Study patients were under the care of one of the departmental consultants. Sixty-one patients (58.1 per cent) underwent surgery on the morning operating list, while the rest (44; 41.9 per cent) underwent surgery in the afternoon. Of all patients, 55 (52.4 per cent) were operated upon by consultants and 50 (47.6 per cent) by registrars under supervision. Of all patients, 24 (22.8 per cent) had undergone previous nasal surgery (either polypectomy ($n = 18$), endoscopic sinus surgery ($n = 3$) or antral washout ($n = 3$)). Functional endoscopic sinus surgery was performed bilaterally in 80 (76.1 per cent) patients and unilaterally in the remaining 25 (23.8 per cent). Patients' surgical details are shown in Table I. Post-operatively, the nose was not packed in 67 (64.8 per cent) patients and Merocel packs were used in 38 (36.2 per cent). In these 38 patients receiving nasal packing, the packs were removed in the anaesthetic recovery room in 24 patients (i.e. within 30 minutes of the operation), on the evening of surgery in six patients (i.e. four hours after the operation) and the next day in five patients. One patient required nasal packing on the ward post-operatively; this was removed the next day.

The majority of patients (90/105; 85.7 per cent) were discharged home on the same day as surgery; however, 15/105 (14.3 per cent) were discharged home the next day. Table II gives the reasons for these overnight stays.

The only complication observed in this study was bleeding, noted in seven patients (6.7 per cent). Five patients had excessive primary haemorrhage and were packed in theatre. The remaining two patients had reactionary bleeding, one of whom required nasal packing.

At their follow-up clinic appointment, 90/105 (85.7 per cent) patients were satisfied with their post-operative results, while 10 (9.5 per cent) patients were not satisfied; five (4.76 per cent) patients were lost to follow up. The reasons for patients' post-operative dissatisfaction were recurrent episodes of sinusitis (in three patients) and rhinitis and congestion (seven patients).

TABLE I

PATIENTS' SURGICAL DETAILS

Procedure	Patients (*n*)
Anterior ethmoidectomy + middle meatal antrostomy	28
Anterior ethmoidectomy + posterior ethmoidectomy	10
Polypectomy + middle meatal antrostomy	35
Polypectomy + middle meatal antrostomy + anterior ethmoidectomy	15
Polypectomy + middle meatal antrostomy + anterior & posterior ethmoidectomy	15
Polypectomy + middle meatal antrostomy + anterior & posterior ethmoidectomy + sphenoidectomy	2

Discussion

Nasal polyposis and sinusitis represent common recurrent disease of the nasal and sinus mucosa. Almost 33 000 new cases of symptomatic nasal polyposis are reported per year in England and Wales.[11] Hospital episode statistics data indicate that approximately 9000 nasal polypectomies and a further 4000 sinus procedures were carried out in National Health Service hospitals in England and Wales in the year from April 2001 to March 2002.[11]

Several studies have been conducted on day surgery in the UK.[6,12–14] Researchers have indicated a large potential for increased day surgery rates (and for a commensurate reduction in in-patient procedures).[15] The main aims of day surgery appear to be a cost reduction in waiting times and a quicker return to a familiar home environment for the patient.[5]

Day-case surgery accounts for almost half of all surgical work performed in the USA.[16] In the UK, it is estimated that within a few years half of all elective surgical procedures will be performed as day surgery cases.[17]

If FESS procedures were performed routinely as day cases, the possible benefits could be substantial, in terms of effective utilisation of resources without compromising the quality of patient care. Septoplasties are being performed as day-case procedures at many centres, with proven substantial financial benefits.[18]

There is little published information on patients' perceptions of day-case surgery, although an audit commission report has highlighted specific areas of dissatisfaction, including lack of facilities, poor

TABLE II

REASONS FOR PATIENTS' OVERNIGHT STAYS

Reason	Patients (*n*)
Nasal packs	6
Bleeding*	1
GA reasons	7
Social reasons	1

*Kept in for observation. GA = general anaesthetic

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levels of privacy, absence of telephones, poor information, and insufficient warning of admission and discharge.[14]

According to Johnson and Jarrett, good outcomes for day-case surgery depend on careful patient selection, careful surgery (by experienced surgeons) and careful anaesthesia (by experienced anaesthetists).[19] In these authors' study of 105 patients, 15 (14.3 per cent) experienced some medical problems after day-case FESS which required overnight hospital stay, although the majority of these problems were relatively minor. It is important to communicate the possibility of such minor complications to patients and to those providing care after discharge. In addition, good peri-operative advice, avoidance of nasal packs and provision of adequate analgesia are key factors in reducing pain and enabling early discharge.

Targeted FESS surgery is a routine procedure. Diseased regions are approached without touching healthy tissue. Minimising tissue damage reduces the amount of intra- and post-operative bleeding, and also contributes to early healing with minimal post-operative adhesions. A systematic review of FESS for nasal polyps has concluded that FESS has some advantages over other techniques.[20] A national audit of sino-nasal surgery for polyposis and chronic rhinosinusitis, carried out in England and Wales, has confirmed that sino-nasal surgery is generally safe and effective.[11]

Conducting FESS procedures as day cases is currently seen as an effective way of maximising efficient use of resources and minimising unnecessary hospital stay. Day-case surgery offers advantages over in-patient treatment, such as cost efficiency, waiting list reduction and, often, greater convenience for patients and their families.[21]

One of the major limitations of conducting FESS surgery as a day-case procedure is the risk of post-operative bleeding. In this series, the bleeding rate was 6.7 per cent. All patients should be warned prior to leaving hospital that some blood-stained discharge will inevitably occur. Such advice should reduce patient anxiety and hence dissatisfaction.

- **Functional endoscopic sinus surgery is the mainstay of surgical treatment for chronic sinusitis**
- **Day-case surgery has the advantage over in-patient surgery of being cost-effective and resource sparing**
- **Endoscopic sinus surgery can be undertaken safely as a day-case procedure**
- **The most important factors for a successful outcome are correct patient selection (in terms of general health and social circumstances) and a dedicated day-case team**

In 1991, the Audit Commission for England and Wales revealed that the majority of day-case surgery patients were satisfied with their treatment, and that the proportion who were dissatisfied was similar to that for in-patients.[8] In this study, 85.7 per cent of patients were satisfied with their day-case surgery. Reasons for dissatisfaction were not related to the day-case nature of the procedure, but rather to recurrence of the disease process. Correct patient selection (in terms of general health and social circumstances) is vital to ensuring patient satisfaction with day-case surgery, as are a smooth sequence of peri- and post-operative events, and adequate control of pain and other symptoms associated with anaesthesia.

Conclusion

Functional endoscopic sinus surgery can be performed safely as a day-case procedure. The most important factors for a successful outcome are correct patient selection (in terms of general health and social circumstances) and a dedicated day-case team.

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