Day Care Surgery in Otolaryngology : a three year Prospective Study

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Abstract

Day care surgery is now an integral part of otolaryngology and is widely practised in the West. But in our military setup it still has to gain popularity. A Day Care Surgical Centre was established at Armed Forces Clinic in 1996. In the period May 1998 to Apr 2001, a total of 752 otolaryngology cases were operated at the centre, of which 474 cases were major and 278 cases were minor. All cases were performed under local anaesthesia supplemented by sedation. Strict patient selection criteria were adopted resulting in a low immediate post-operative complication rate (1.46%). None required admission to hospital for the management of complications. The feasibility of performing otolaryngological surgery on a day care basis is demonstrated, especially in nasal and aural cases. The experience gained shows that high medical standards can be achieved with low resource expenditure. Patient selection criteria and guidelines are suggested.

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Key Words : Day care; Otolaryngology; Surgery

Introduction

The concept of day care surgery started in the immediate post World War II period and now 50 years later, it enjoys tremendous popularity, especially in the developed countries. It is estimated that in a few years time, half of the elective surgery in Britain will be on day care basis [1]. Apart from the obvious benefits to the patients in terms of minimal disruption of their activities, day care surgery is highly cost effective to the concerned organization. This is not only in terms of cost reduction, but also in terms of optimal utilization of available manpower, bed occupancy and resources [2,3].

Armed Forces Clinic (AFC) New Delhi, has been a pioneer in the field of day care surgery. Since 1996 day care surgical services have been offered to patients on a regular basis. Against this background, a three-year prospective study was undertaken to identify the scope and range of day care surgery that can be offered in otolaryngology (OL) alongwith rate of complications during this period.

Material and Methods

Study population : All patients advised surgery in OL at Armed Forces Clinic, New Delhi, from May 98 to Apr 2001.

Inclusion criteria : All patients in whom OL surgery was indicated and advised and were fit to undergo surgery in ASA Grade I or II as assessed by anaesthesiologist at Army Hospital (R&R) or Base Hospital, Delhi Cantt, for local anaesthesia.

Exclusion criteria:

Any patient who required the administration of general anaesthesia. Any patient unfit for local anaesthesia or in

ASA Grade III or above.

Preoperative checkup : Routine preanaesthetic (PA) check up was done, with patients over 35 years being subjected to ECG, Blood Sugar (Fasting and PP), X-ray chest.

Anaesthesia

Premedication was a standard regime given below :

Tablet Diazepam 5 mg at bedtime on the preoperative night.

Injection Atropine (10 µg/kg to a max of 0.6 mg I/M) 45 min before surgery.

Injection Pethidine (1 mg/kg to a max of 50 mg I/M) 45 min before surgery.

Injection Phenergan 25 mg I/M 45 min before surgery.

A combination of standard regional, infiltrative and topical local anaesthesia was used.

Surgical technique : Standard surgical techniques were used.

Immediate Post Operative Monitoring :

Post operatively patients were detained and monitored in the postoperative recovery room for minimum 4 hours.

Discharge criteria : The criteria followed for discharge from the detention room were :

Stable vitals signs for at least one hour.

Correct orientation as to time, place and relevant people.

Adequate pain control with oral analgesics.

Oral diet/fluids commenced without vomiting.

Minimal bleeding or wound drainage.

Follow up protocol:

Lesion and pack checked 48 hours post operatively.

Pack removed after 48 hours where applicable.

Sutures and dressing removed on fifth day post

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operatively.

Rest for 72 hours given post operatively.

Review fortnightly and thereafter if required.

All the relevant data was maintained in a computer database. Informed consent was obtained from all patients. Ethical clearance was not needed since day care surgery in ENT has been a standard of care at AFC, New Delhi since 1996. Prophylactic antibiotics were used in all cases in the form of oral first generation cephalosporins for 5 days. Prophylactic analgesia in the form of oral NSAIDS was used in all cases for 5 days post operatively. Patient satisfaction was asked about at the first fortnightly review in the form of questionnaire. The points covered were:

- Intra-operative and post-operative pain experienced
- Suitability of the day care surgery as per the operation performed
- Post-operative experience in the clinic and at home

Results

In the period of 3 years, May 98 to Apr 01, 1028 cases were advised surgery. Of these 986 cases accepted surgery, of which 752 patients qualified for enrolment in the study and underwent day care surgery at AFC in the period May 1998-Apr 2001. Of the 752 study subjects, 474 (63%) underwent major surgery and 278 (37%) underwent minor surgery. A total of 306 (40.7%) ear cases, 297 (39.5%) nasal cases and 149 (19.8%) throat cases were performed. The nature and number of major and minor surgeries performed during the study period, year wise, is shown in Table 1 & 2 respectively. Of the 752 cases taken up 81.9% were in the age group 10-60 years. 61% of the cases were dependents residing with their families and 39% were serving/retired personnel. The demographic characteristics of the patients is given in Figs. 1 & 2.

Immediate complications were observed in a total of 11(1.46%) patients and included postoperative epistaxis, vestibular irritation and transient facial nerve palsy (Fig 3). No cases required admission for management of complications. No patients complained of intractable pain in the postoperative period. The vast majority of subjects who underwent major surgery (N=474), 432 (91.1%) experienced

Fig. 1 : Age distribution of study group (n=752)

Table 1

Major OL cases done on a day care basis

Name of operation	1998-1999	1999-2000	2000-2001	Total
Tympanoplasty	31	42	45	118
Septoplasty	22	27	33	82
FESS	15	20	24	59
Septoplasty with turbinectomy	15	22	16	53
Endoscopy	11	19	15	45
Rhinoplasty	7	11	15	33
Attico-Antrostomy	3	11	8	22
Atticotomy	6	6	9	21
MR mastoidectomy	4	6	9	19
Cortical mastoidectomy	2	4	2	8
Caldwel-Luc	1	2	4	7
Tonsillectomy	3	3	1	7
Total	120	173	181	474

no or little pain. Out of the remainder 42 subjects, there were 31 cases (73.8%) who experienced greater discomfort, but had it for a short intra-operative duration only. The remaining 11 cases (26.2%) were all nasal surgery cases, who had a persistent feeling of heaviness and headache which was

Fig. 2 : Demographic details of the study group (n=752)

Fig. 3 : Incidence of post operative complications (n=11)

Table 2**Minor OL cases done on a day care basis**

Name of operation	1998-1999	1999-2000	2000-2001	Total
Ear lobe repair	17	16	21	54
F/Body ears	9	15	11	35
Grommet insertion	6	9	14	29
Cryocautery of oral and nasal ulcers	11	10	8	29
Other I and D	8	12	5	25
F/Body nose	3	6	13	22
Antral puncture	4	8	9	21
Fracture nasal bones splinting	5	5	10	20
Quinsy drainage	6	5	7	18
Lymph node excision	6	4	5	15
F/Body throat	3	3	4	10
Total	78	93	107	278

related to the presence of the nasal pack and settled down with administration of oral NSAIDS.

All subjects (N=752) felt that they had been well taken care of during the intra operative and post-operative period. 95.5% (718 subjects) were favourably impressed by the day care surgical procedure. 692 cases (92.0%) would again favour surgery in day care environment if advised. Of the remaining 60 cases (8.0%), 43 subjects were single and staying alone and would have preferred to be operated in a hospital setting. The remaining 17 cases were patients who had a problem commuting for the follow up and would have preferred hospital stay for the initial one week.

Discussion

Day care surgery is defined as surgical or invasive diagnostic procedures performed by surgeons in a surgical suite or specialized area with pre-procedural and immediate post-procedural care on the same day without hospitalization [4]. This relieves the dependency on the available hospital beds for a number of cases, thus increasing the output of the surgical services. This has been seen dramatically in All India Institute of Medical Sciences (AIIMS), New Delhi, where the ENT department started a day care operation theatre (OT) in 1995. In 1999 out of 90,208 total cases operated in AIIMS, New Delhi, 26.5% were done in ENT, with most of the routine surgery being done in the day care OT [3].

The anaesthetic assessment protocol and choice of anaesthesia is similar to other studies [5,10]. The fact that the majority of the subjects eligible for enrolment participated in the study is a direct indicator of the popularity of day care surgery. The scope of surgery done in the clinic was limited as far as throat and neck cases (19.8%) were concerned, as the majority of the neck and throat cases required general anaesthesia for the surgery and thus had to be excluded from the study.

However, if general anaesthesia facilities were available this number could have been increased as adenoidectomy, adenotonsillectomy, tonsillectomy, and other routine procedures in children could be done in a day care set up [7,12].

Various studies and guidelines issued by medical organizations have subscribed to an unexpected post-operative admission rate of 0.5% [6], 1.8% [7], 2-3% [11], 4% [9]. In the period of 3 years there were no cases that required post-operative admission for treatment or observation. The low complication rate of the study can be attributed to a number of reasons :-

- Careful selection of patients.
- Strict asepsis of the OT and instruments.
- Routine surgical procedures were performed. No new methods of surgery were tried.

Patient acceptance of day care surgery is gratifying. 93.5% of the patients were in favour of day care surgery, with 92% saying that they would opt for it again if required. This level of satisfaction is similar to other studies ranging from 89% to 93% [10,14].

We suggest that certain selection and exclusion criteria be maintained for patient selection for day care surgery. These are listed briefly below as guidelines.

- Simplicity of the procedure :** The operative procedure should be of relatively short duration.
- Incidence of postoperative complications :** The potential incidence of postoperative complications should be low and recovery period minimal.
- General good health of the patient :** The patient should be in good health or have a systemic disease, which is under good control.
- Patient reliability :** Patient should understand and be willing to follow post-operative instructions.
- Home situation of the patient :** Patients should have some one to take care of them at home post-operatively.

Patients who should be excluded include those with serious infections, patients staying alone and those requiring emergency surgery, except those suffering from uncomplicated fractures, or from other minor trauma routinely treated on an ambulatory basis.

In our opinion, the study opens up exciting possibilities in OL surgery in the Armed Forces. The benefits and advantages of day care surgery in OL can be reaped in full if the surgeon is careful in the selection of patients and works within the limit of available surgical skills, manpower, equipment and support facilities. Given the expertise available in the ENT departments of service hospitals, it is beyond doubt that reasonable day care surgical services if offered in service hospitals, will be

of immense benefit to the patients as well as economical to the organization.

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