



Original Article

Prospective Study of Day Case Surgery in Otorhinolaryngology and Head-Neck Surgery Department

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Abstract

Day case surgery is feasible, safe and economic. The tremendous success of day care surgery is due to advances in surgical as well as anaesthetic techniques and proper postoperative recovery care. In the period January, 2006 to December, 2006 at Rajshahi Medical College Hospital, a total of 390 were operated of which 109 cases were major and 281 cases were minor surgery 327 cases were performed under local anaesthesia, 42 cases were performed by general anaesthesia and 21 cases were done without anaesthesia.

Strict patient selection criteria were adopted. As a result postoperative complication rate was only 4.5%. Two patients required readmission to hospital for the management of complications. The most commonly performed otorhinolaryngological surgery in a day care basis is demonstrated, especially in nasal and aural cases. The scope of day case surgery is very limited in case of throat and neck surgery.

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Introduction

Day case surgery started after World War II and now it enjoys tremendous popularity and is widely practiced in west. It is hoped that within few years half of the elective surgery will be on day care basis¹. Day care surgery is highly cost effective to the concerned organization and minimal disruption of the patient's activities.

Day Case Surgery means patient is admitted for surgical procedure as a treatment or as an invasive diagnostic purpose on a planned non-resident basis but who requires facilities for recovery. All patients of day care surgery are discharged on the same day or within 24 hours after recovery.²

The success of day case surgery has also leads to advances in surgical as well as anaesthetic techniques namely the development of short acting

and ultra short acting anaesthetic agents and regional anesthetic techniques. This concept has become popular for the following advantages with limited disadvantages.

Advantages-

- Shorter waiting time for operation theatre as in door patient and avoid psychological trauma of prolonged separation from the parents and home in case of child patient specially.
- Early mobilization of the patient.
- Lower hospital cross infection rate.
- Shortens routine operation list.
- To minimize the unnecessary attendant to the hospital campus, and no need of repeated hospital visit in case of patient's relative.
- To minimize possible G/A hazards.
- Cost effective.
- To minimize the bed occupancy.^{3,4}

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Disadvantages-

- Limited care available to the patient.
- Intermediate and late complication may be missed.
- Complicated cases cannot be done.

Patient selection for day surgery is dependent on both the surgical procedure and also the physical state of the patient. Surgical procedures where there is chance of undue haemorrhage should be undertaken with caution e.g. tonsillectomy, adenoidectomy. Post tonsillectomy bleeding often does not occur until more than 12 hours after surgery. So then operation should be scheduled in the morning.

Age is not a contraindication to day surgery but premature infant, infant with apnoeic episodes, aged patient above 70 should be excluded. But it is imperative to have pre-operative control of any infection so that the complication and bleeding are minimal during surgery. As a rule senile, infant, non co-operative, nervous, obese patient are excluded.

The ability of a patient to co-operate with written pre and postoperative instruction and the availability of a responsible adult to supervise the patient during evening and first night was required. The possibility of overnight hospital admission must be understood and accepted by the patient. A telephone must be accessible so that the hospital can be contacted in an emergency and home should be nearest to the hospital or easily available transport.⁶

The patient is usually asked to remain fasting overnight and report to the hospital for admission in the morning. But milk may be given 4 hours before surgery in case baby patient.⁷ A standard day care unit setup is a part of referral hospital and managed by competent doctors and staffs with fully equipped operation theater, recovery room, monitoring and ventilation equipment.⁸ Against this background one year perspective study was undertaken to identify the scope and range of day care surgery in our otorhinolaryngology, Head-Neck Surgery Department along with rate of complication during the period.

Materials and Methods

Place of study: Otorhinolaryngology and Head-Neck Surgery, RMCH, Rajshahi, Bangladesh.

Duration of study: January, 2006–December, 2006

Study population: All patients advised surgery in OL Dept. of RMCH.

Type of study: Prospective

Inclusion criteria:

All patients in whom OL surgery was indicated and advised and were fit to undergo surgery according to criteria. ASA (American Society of Anesthesiologist)

Grade-I (No organic and functional defect) and

Grade-II (Mild organic or functional defect) as assessed by anesthesiologist for general or local anaesthesia.⁸

Exclusion criteria:

1. Any patient who required the administration of general anaesthesia.
2. Any patient unfit for G/A (ASA Grade III or above).

Pre-operative checkup: Routine checkup was done, the patient being subjected to complete blood profile, chest X-ray, ECG, BT, CT, blood sugar, S. creatinine etc.

Anaesthesia: Pre-medication was a standard regime with Diazepam at bed time, Atropine 45 min before surgery. A combination of standard infiltrative, tropical and regional anaesthesia was used.

Surgical techniques: Standard surgical techniques were used.

Postoperative monitoring: Postoperative patients were monitored routinely.

Discharge criteria:

- Stable vital sign for at least one hour
- Adequate pain control
- No vomiting or vertigo
- Minimum bleeding or wound discharge
- Orientation to person, place, time
- Ability to take fluid
- Ability to void

Follow up criteria-

- Wound, dressing, pack checked 48 hours post-operatively
- Pack removed after 48 hours
- Suture and dressing removed in 5th/6th POD
- Rest for 72 hrs given postoperatively
- Review after if required

Informed written consent was obtained from all patients. Prophylactic antibiotics were used in all cases in the form of broad spectrum for 7/10 days. Then treatment symptomatically and accordingly.⁹

Result

In the period of 12 months, January, 2006 to December, 2006, 530 cases were advised surgery. Of these 420 cases accepted surgery, of which 390 patients qualified for this surgery and underwent day case surgery at RMCH, Rajshahi. Of this 390 study subjects, 109 (26.6%) underwent major surgery and 281 (73.4%) underwent minor surgery. A total of 120(30.8%) ear cases, 180 (46.1%) nasal cases and 90(23.1%) throat and neck cases were performed. Age and sex distribution are given in Fig. I and II. Table I, II, III are shown nature of ear, nose, throat and neck surgery respectively.

Table-I: Ear Surgery.

Name of surgery	Number	Anaesthetic	Discharge
Myringotomy	15	CLA	Same day
Grommet insertion	2	CLA	Same day
Excision of Accessory Auricle and skin tag	4	CLA	Same day
Excision of keloid	6	Infiltrative	Same day
Removal of impacted wax	14	No	Same day
Removal of F.B. in EAC	25	No	Same day
Removal of F.B. in middle ear	6	G/A	Same day
Excision of granulation tissue, polyp of EAC	7	CLA	Same day
Surgical debridement of Perichondritis	15	CLA	Same day
Incisional drainage of haematoma auris	8	Infiltrative	Same day
Wide excision of small size carcinoma of pinna	2	CLA	Same day
Pinna repair following trauma	16	CLA	Same day
Total	120		

Immediate complications were observed in a total of 85 patients and included nausea, vomiting, epistaxis, haemorrhage, vertigo, pain, and transient facial nerve palsy (Fig. IV). Two cases required admission for management of complication. No patient complained of intractable pain in the postoperative period. Most of the patients discharged on the same day only 25 patients

discharged on the 1st POD. Types of anaesthesia were used shown in Fig. III. 42 patients out of 390 patients needed no anaesthesia to remove F.B. from nose and ear.

All subjects (N-390) felt that they had been well taken care during the inter-operative and post-operative period.

Fig-I: Age distribution.

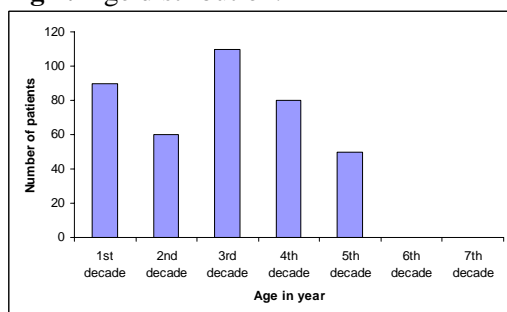


Fig-II: Sex distribution.

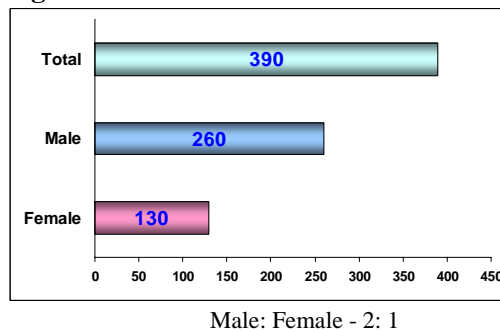


Fig.-III: Pattern of Anaesthesia

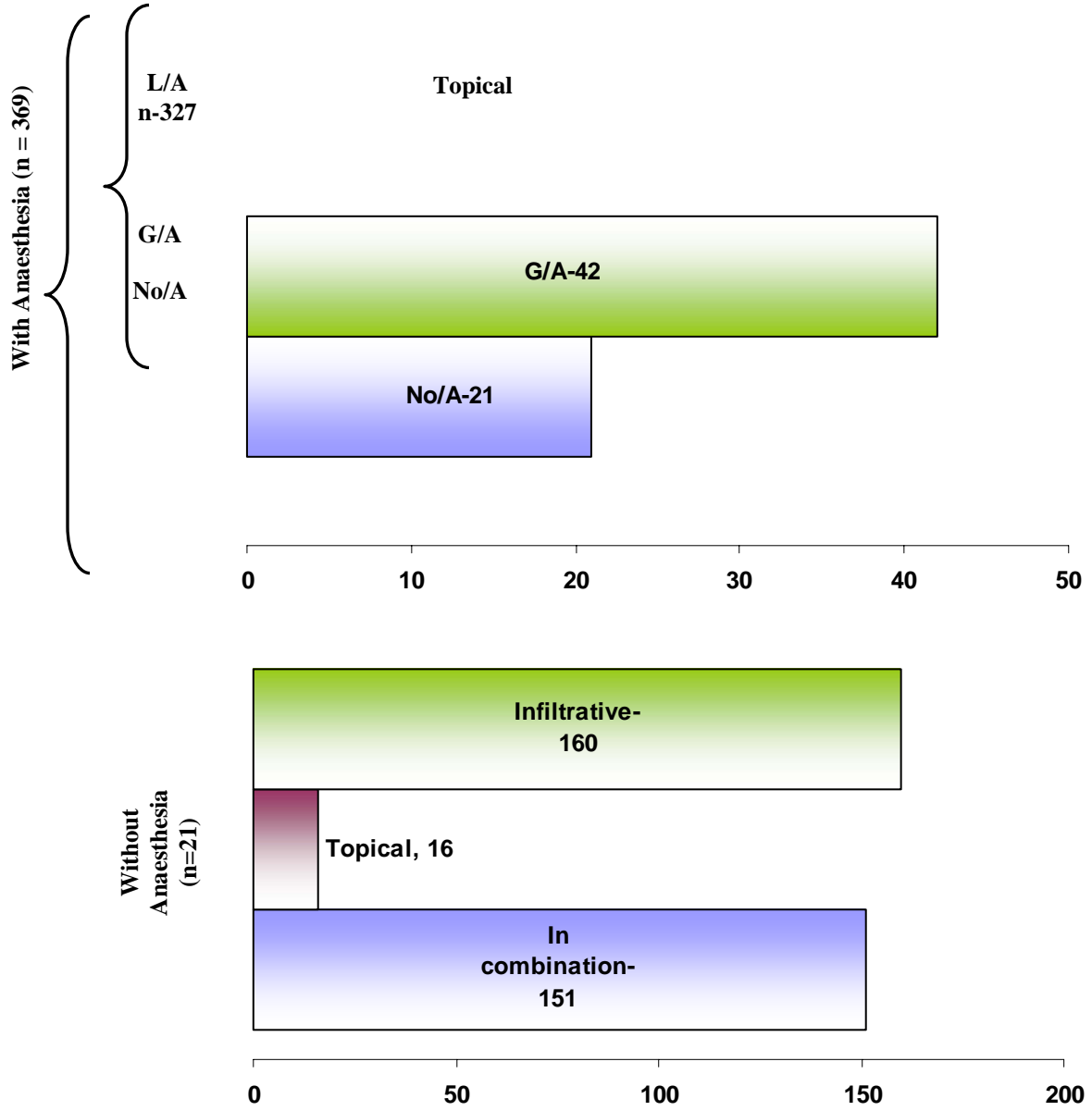


Fig.-IV: Incidence of postoperative complication (N=85).

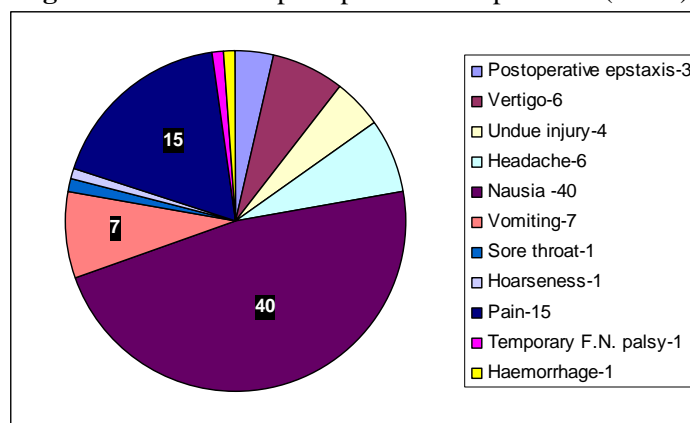


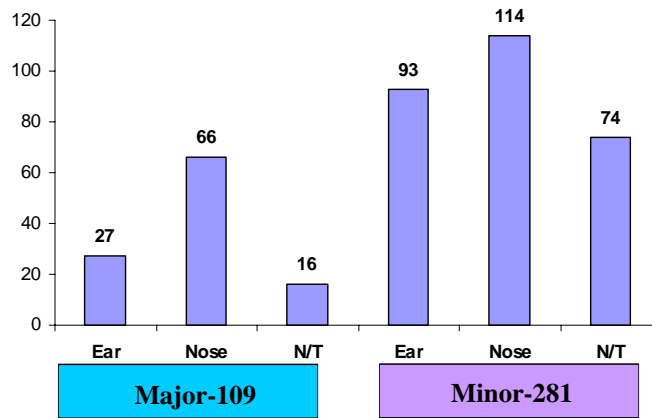
Table-II: Nasal Surgery.

Name of surgery	Number	Anaesthetic	Discharge
Removal of F.B. in nose	35	L/A-30, G/A-5	Same day
Removal of rhinolith	1	L/A	1 st POD
Antral wash out	24	L/A	Same day
Reduction fracture nasal bone	8	CLA	Same day
SMR	7	CLA	1 st POD
Septoplasty	15	CLA	Same day
SMD of HIT	20	CLA	Same day
Caldwel-LUC	12	CLA	Same day
Excision of Nasolabial Cyst	4	CLA	Same day
Excision of bleeding polyp	2	L/A	Same day
Cuaterization and ANP in case of epistaxis	26	L/A	Same day
Incisional drainage of septal haematoma, abscess	6	CLA	1 st POD
Nasopharyngoscopy (FOL)	10	Tropical	Same day
Total	180		

Table-III: Throat and Neck surgery.

Name of surgery	Number	Anaesthesia	Discharge
Tonsillectomy	10	G/A-5, L/A-5	Same day
Incisional drainage of Quinsy	3	No	Same day
Excision of the tongue tie	6	Infiltrative	Same day
Incision of tongue abcess	4	Topical	Same day
Wide excision of tongue carcinoma (small size)	2	Infiltrative	Same day
Excisional biopsy of tongue	4	Topical	Same day
F.B. in hypopharynx	25	20 no anaesthesia, 5-G/A	Same day 1 st POD
Biopsy from supraglottic growth in case of laryngeal carcinoma	6	Topical	Same day
Excisional biopsy of cervical lymphadenopathy	10	CLA	Same day
Excision of stone in the duct of sub-mandibular gland	3	CLA	Same day
Excision of ranula, dermoid, small haemangioma of tongue, retention cyst	14	CLA	Same day
Removal of wire, plate of hemimandibulectomy	3	CLA	Same day
Total	90		

Fig.-V: Distribution of major and minor surgery.



Discussion

Day case surgery relieves the dependency on the available hospital beds for a number of cases. This increasing output of this 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 and also in Armed Forces Clinic (AFC), New Delhi in 1996.¹⁰

The anaesthetic assessment protocol and choice of anaesthesia is similar to other studies. The scope of surgery done in clinic was limited as far as throat and neck cases were concerned, as the majority of neck and throat cases required general anaesthesia. However, if G/A facilities were available this number could have been increased as adenoidectomy, adenotonsillectomy, tonsillectomy and other routine procedure in children could be done in day care unit.^{11, 12}

Various studies and guidance issued by medical organizations have subscribed to an unexpected post-operative admission rate of 0.5%¹³, 1.8%¹¹, 2-3%¹⁴, 4%¹⁵. In our study, in the period of one year two patients required post-operative admission for treatment and observation. The low complication rate of the surgery can be attributed to a number of reasons- a) Careful selections of patients, b) Strict asepsis in OT and instruments, c) No new methods of surgery were tried. Patient's acceptance in day case surgery is gratifying.

We suggest that certain selection and exclusion criteria be maintained for patient selection for day case surgery.

In our opinion, the study opens up exciting possibilities in otorhinolaryngology and Head-Neck surgery in Rajshahi Medical College Hospital, Rajshahi. The benefits and advantages of day case surgery in this department can be reaped in full if the surgery is careful in the selection of patients and works within the limit of available surgical skills, manpower, and equipment and support facilities.

Conclusion

Day case surgery is safe, feasible and immense benefit to the patients as well as economical to the organization.

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