

To Assess the Feasibility of Day Care Surgery in a Tertiary Care Center with Hilly Terrain

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Abstract

Background: The term used for day surgery varies in the literature, with several terminologies such as ambulatory surgery as well as day-case, day-care and same-day surgery. By the year 2000 more than 60% of all surgical procedures in US were being performed on an outpatient basis. In India day care surgeries are still a new concept in health care

Methods: This study has been done in a single unit of the Department of General surgery at Indira Gandhi Medical College and Hospital, Shimla w.e.f July 2017 to Dec 2018 on patients attending the OPD as well as admitted for surgery.

Results: Out of 155 patient 139 (89.7%) patients were found be satisfied when judged with questionnaire asked postoperatively on day 7 by using Likert scale and 16 (10.3%) patients were found to be unsatisfied with day care surgery. Unsatisfied patients included, 9 patient of laparoscopic cholecystectomy (2 due to conversion to open procedure, 3 due to post operative pain management, 3 due to early discharge and 1 due to readmission for shortness of breath which was managed conservatively, 2 patients of LTFMH due to urinary retention and post operative pain management, 2 patients of anatomical repair of paraumbilical hernia, 2

patients of laparoscopic appendectomy and 1 patient of wide local excision for soft tissue tumor due to early discharge.

Conclusion: This study clearly shows that day care surgery is feasible and safe with a good postoperative satisfaction score in a hilly terrain.

Keywords: Satisfaction, Daycare, Surgery.

Introduction

The original concept as Day care surgery was the admission and discharge of a patient for a specific procedure within the 12 hours. Where the patient required an overnight admission then 23 hours stay was used.¹ Day-care surgery is defined as planned procedures on patients who are admitted and discharged home on the day of their surgery but who requires home facilities and time for recovery.² However, the day surgery concept is ambiguous and a 23-hour stay has been regarded as a day surgery procedure in some countries (e.g. in US and UK).² Again there are cases that are not admitted but are operated under local anesthesia on OPD basis and sent home the same day.

The level of ambulatory surgery is classified as follows

a) Minor ambulatory surgery (under local anesthesia)

- b) Major ambulatory surgery (under general anesthesia, neuroaxial block with or without intravenous anesthesia)
- c) Inpatient ambulatory surgery.³

Over the centuries the most respected healer, the Surgeon, has refined this specialty into an art form. In the present century, the better understanding of the healing process, increase in surgical skills, availability of better anesthetic drugs and willingness to do something new, which is beneficial to the patient and the surgeon, has led to the development of day care surgery or ambulatory surgery as an art itself.⁴ The term used for day surgery varies in the literature, with several terminologies such as ambulatory surgery as well as day-case, day-care and same-day surgery. By the year 2000 more than 60% of all surgical procedures in US were being performed on an outpatient basis. In India day care surgeries are still a new concept in health care.⁵ In India 11-23% of the surgeries performed in hospital settings are on outpatient basis and the majority of surgeries are performed by Ophthalmology, Otorhinolaryngology, Gynecology and General surgery specialist. Anesthesia techniques have to be modified and titrated to a level so as to provide optimal anesthesia with minimal side effects. Sevoflurane and Desflurane has maintained the place of day care ambulatory anesthesia in modern day anesthesia practice; however, widespread usage of these agents is somewhat limited by their high procurement cost.⁶

Materials And Methods

Study Period: July 2017-Dec 2018; which includes the period of enrolment, analysis and writing.

Setting: This study has been done in a single unit of the Department of General surgery at Indira Gandhi Medical College and Hospital, Shimla w.e.f July 2017

to Dec 2018 on patients attending the OPD as well as admitted for surgery.

Study Design: Observational study

Sample Size: Following operations were performed:-

Orchidopexy	Excision of ganglion, lipoma
Circumcision	TURBT, Cystoscopy, DJ Stenting
Mesh hernia repair	Herniotomy
Excision of breast lump	Enucleation of sebaceous cysts
Excision of soft tissue tumor	Enucleation of dermoid cysts
Anal fissure dilatation	Abscess Drainage
Laparoscopic Appendectomy	Surgeries for Vericocoele, Hydrocele
Laparoscopic cholecystectomy	Surgeries for Fissure/Fistula in ano
Varicose vein stripping or ligation	Excision of pilonidal-sinus

Patients were selected on OPD basis for different day care surgical procedures in Department of General Surgery at IGMCH Shimla, during time period of July 2017 to December 2018.

Selection of Cases

Inclusion criteria: for those operated in Major OT

- Patients were assessed as American Society of Anesthesiologists (ASA) classes I or II.
- For most procedures under GA and SA, availability of a responsible adult was ensured who escorted the patient home and provided support for the first 24 h.
- Patient stayed within 30 min of travelling distance from the hospital with adequate motivational level.
- Patient who gave informed consent for the study.

- All the cases operated under Local anaesthesia were not admitted.

Exclusion criteria: Patient with the following criteria was excluded:

- Patients with extreme obesity and co-morbid conditions like poorly controlled diabetes, hypertension, and coronary artery disease or ischemic heart disease and with ASA III and IV.

Observations

This observational study was conducted in the Department of surgery, I.G.Medical Collage, Shimla from 1st July 2017 to 31st December 2018 and included 155 patients selected for day care surgery who presented in surgery unit 3 O.P.D / emergency. Patients were selected for day care surgery after taking written consent from patient / attendant in case of minors and disabled, after explaining the procedure in their own language.

Out of 155 patients who underwent surgery 96 (61.9%) had major surgery and 59 (38.1%) had minor surgery. Major surgery included the surgeries which required admission and minor surgery were surgeries which did not require admission.

Table 1: Surgery

Surgery	Frequency(n)	Frequency (%)
Major	96	61.9
Minor	59	38.1

Out of 155 surgeries 74 were Laparoscopic Cholecystectomies, 9 were Laparoscopic Appendectomies, 32 were excision of sebaceous cyst/lipoma/dermoid cyst etc, 5 were of herniotomy for congenital hernia, 1 was Lords procedure of hydrocele, 14 were excision of fibroadenomas of breast, 5 were of wide local excision of soft tissue tumor of size upto 2cm, 3 were of anatomical repair of paraumbilical hernia, 1 was vericocoelectomy for vericocoele, 1 was

excision of pilonidal sinus, 2 were circumcisions for phimosis, 1 was check cystoscopy for follow up case of carcinoma urinary bladder, 1 was TURBT for urinary bladder tumor of approx 2cm size, 1 was urethral stone retrieval under local anesthesia, 2 were LTFMH for inguinal hernia, 1 was vasovasotomy for secondary infertility and 2 were multiple plebectomies for varicose veins lower limb.

TABLE-2

Surgery	Frequency(n)
Laparoscopic Cholecystectomy	74
Laparoscopic Appendectomy	9
Excision (lipoma,sebaceous/dermoid cyst)	32
Fibroadenoma excision up to 5cm	14
Wide local excision (soft tissue tumor up to 2cm	5
Herniotomy(congenital hernia)	5
Lord's procedure (hydrocele)	1
Anatomical repair of paraumbilical hernia	3
Varicocoelectomy	1
Excision of pilonidal sinus	1
Circumcision (for phimosis)	2
Check cystoscopy	1
TURBT (tumor size of approx 2cm)	1
Urethral stone retrieval under local anesthesia	1
LTFMH	2
Vasovasotomy(secondary infertility)	1
Multiple phlebotomies (varicose vein lower limb)	2

Out of 155 patients 141(91%) had no physical limitation due to pain, 12 (7.7%) had minimal

limitation, 2 (1.3%) had moderate limitation and none had severe limitation.

Out of 155 patient 139 (89.7%) patients were found be satisfied when judged with questionnaire asked postoperatively on day 7 by using Likert scale and 16 (10.3%) patients were found to be unsatisfied with day care surgery. Unsatisfied patients included, 9 patient of laparoscopic cholecystectomy (2 due to conversion to open procedure, 3 due to post operative pain management, 3 due to early discharge and 1 due to readmission for shortness of breath which was managed conservatively, 2 patients of LTFMH due to urinary retention and post operative pain management, 2 patients of anatomical repair of paraumbilical hernia, 2 patients of laparoscopic appendectomy and 1 patient of wide local excision for soft tissue tumor due to early discharge.

Table 3: Patient Satisfaction

Variables	Options	Frequency(n)	Frequency (%)
Post operative satisfaction score	Not satisfied	16	10.3
	Satisfied	139	89.7

Discussion

At the turn of 20th century, the foundation for modern day surgery was laid by James Nicoll(1869-1921) with his work at Sick Children's Hospital and Dispensary in Glasgow, Scotland. He operated a large number of children for condition such as hernia, phimosis, mastoid disease, cleft palate, talipes equines and spina bifida on day basis.⁷

Out of 155 patient 139 (90%) patients were found be satisfied and 16 (10%) patients were found to be unsatisfied when judged with questionnaire asked

postoperatively on day 7. Unsatisfied patient's included 9 laparoscopic cholecystectomy patients (2 due to conversion to open procedure, 3 due to postoperative pain management, 3 due to early discharge and 1 due to readmission for shortness of breath which was managed conservatively), 2 patients of LTFMH due to urinary retention and post operative pain management, 2 patients of anatomical repair of paraumbilical hernia, 2 patients were of laparoscopic appendectomy and 1 patient of wide local excision for soft tissue tumor due to early discharge. It is comparable to the study conducted by Basil J. Ammori where post-operative satisfaction was assessed with questionnaire and 94% were satisfied and 6% were unsatisfied mostly due to same day discharge, postoperative nausea, vomiting and pain.⁸

Conclusion

This study clearly shows that day care surgery is feasible and safe with a good postoperative satisfaction score in a hilly terrain.

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