

# Review of day care surgery in a rural set up: An observational study

Arun V Dawle<sup>1\*</sup>, Kunal M Veling<sup>2</sup>

<sup>1</sup>Associate Professor, <sup>2</sup>Sr Resident, Department of Surgery, SRTR Medical College, Ambajogai, Dist. Beed, Maharashtra, INDIA.

Email: [drarundawle@gmail.com](mailto:drarundawle@gmail.com)

## Abstract

The history of “DAY CARE SURGERY” is as old as medicine itself. This is an era of cost containment. Number of patients discharged on the same day of surgery is increased due to fast tracking anaesthesia techniques and advances in surgical techniques. **Aims and objectives:** To assess the feasibility of day care surgery in rural area. **Materials and methods:** In the present study total 200 patients were studied operated for various day care procedures. All the patients were operated on day care basis. Results were compared with in patients with respect to Morbidity, Wound infection, Postoperative pain, Types of anesthesia and related morbidity, Reasons for conversion of day care to indoor. **Results:** It was observed that majority of the patients (77%) undergone day care surgeries were less than 40 years of age. Majority of the patients were male (64.5%). It was seen that majority of the patients (63%) in the study were operated under local anesthesia followed by were general anesthesia (28.5%). In the present study 18.5% were not discharged where as 6% patients required readmission for various reasons. Nausea and vomiting was the most common reason for inability to discharge patients as day care surgery which was observed in 5% patients of the total patients. 12 patients (6%) needed readmission. Out of these 3 patients had nausea and vomiting. Four patients had pain after discharge and five patients had wound discharge. **Conclusion:** Day care surgery was well accepted in young patients with ASA grade I and II. Thus Day care surgery when performed with all due precautions and careful selection and meticulous preparation has a wide safety margin and a good success rate.


**Key words:** day care surgery, rural area, discharge and readmission.

## \* Address for Correspondence:

Dr. Arun V Dawle, Associate Professor, Department of Surgery, SRTR Medical College, Ambajogai, Dist. Beed, Maharashtra, INDIA.

Email: [drarundawle@gmail.com](mailto:drarundawle@gmail.com)

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## INTRODUCTION

The history of “DAY CARE SURGERY” is as old as medicine itself. Ancient evidences and instruments of Shusrut’s work have been recorded long ago before modern medicine took birth. 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

the want 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.<sup>1</sup>This is an era of cost containment. Number of patients discharged on the same day of surgery is increased due to fast tracking anaesthesia techniques and advances in surgical techniques.<sup>2</sup> Day surgery is not a new concept. In 1909 James Nicoll, Scottish Surgeon, reported operating on nearly 900 children as day cases for operation such as talipes, correction of hare lip, hernia repair and mastoid surgery. His motivation was to save money and use resources better reasons which are equally valid today. In the USA, Ralph waters, an anesthetist found his ‘down town anesthesia clinic’ for dental and minor surgery in 1912, the prototype for free standing DSU. Despite acclaims for these innovations, at that time, the concept was slow to gain acceptance and only when the disadvantages is of prolonged bed rest after surgery became appreciated in 1940’s that day surgery could really progress.<sup>3</sup> Improvements in anesthesia, pain control techniques, minimally invasive surgery and changing

attitudes to recovery after surgery have all promoted the expansion of day care surgery. Definitions of Day care surgery have varied from country to country. The “Day Surgery Operational Guide<sup>1</sup>”, issued by department of health U.K. has described day care surgery as “the admission of selected patients to a hospital for a planned procedure, returning home the same day. True day care cases are the patients requiring full operating theatre facilities and/or general anesthetic agents. The American author of the book “Major Ambulatory Surgery<sup>4</sup>”, James E. Davies described day care surgery or ambulatory surgery or outpatient surgery, as that care provided to non hospitalized patient with immediate discharge of patient; local anesthesia is invariably used. Whereas major ambulatory surgery is defined as that surgery done under general, regional or local anesthesia in which a period of post operative recovery and/or observation is utilized before the patient is discharged home later the same day. These include cases hospitalized up to 23hrs from the time of admission.

### AIMS AND OBJECTIVES

To assess the feasibility of day care surgery in rural area.

### MATERIALS AND METHODS

The present study was conducted in the department of surgery of Swami Ramanand Tirth Rural Medical College, Ambajogai, Dist. Beed. The study was conducted between September 2003 to January 2006. Following inclusion and exclusion criteria was used to select the study patients.

#### Inclusion criteria

- Age more than 6 months old.
- Medically fit and stable patients.
- ASA I, II, III, (well controlled).
- Well motivated psychologically and mentally stable.

#### Exclusion criteria

- Age less than 6 month.
- ASA IV or V.
- Surgeries requiring intensive post operative care.

Thus total 632 patients were operated in S.R.T.R. medical hospital Ambajogai on a routine basis during the study duration; out of them 386 patients were candidates for day care surgery satisfying the criteria still only 217 patients consented to day care surgery out of which 200 patients were chosen for the present study. Detailed history regarding name, age, presenting complaints recorded on a prestructured proforma. The onset of complaints, duration and progress were noted. A detail general examination including build, nutrition, pallor,

jaundice, edema, dehydration, pulse, B P, temperature, respiration, lymph nodes were examined and the relevant findings were recorded. A routine examination of cardiovascular, respiratory, Central nervous system and per abdominal examination was done and relevant findings were also noted. Routine and relevant laboratory investigations were performed. All the patients were operated on day care basis. Results were compared with in patients with respect to Morbidity, Wound infection, Postoperative pain, Types of anesthesia and related morbidity, Reasons for conversion of day care to indoor.

#### At the time of discharge following criteria was used

- Patient is fully conscious.
- Hemodynamically stable.
- No giddiness on standing.
- Able to walk without support.
- Tolerate orally without vomiting.
- No or minimal pain controlled with oral analgesics.
- Passed urine.
- Responsible person to take patient home.
- No surgical complications.

All the patients had received a dose of inj. Cefotaxime and Gentamycin and discharged with tab. Ciprofloxacin and tab. Ibuprofen and if required tab. Tramadol. All day care patients were called on post operation day 4 for dressing change followed by 8<sup>th</sup> post operation day if required for suture removal except the patients operated for abscess who were called for daily dressings during the first week then followed by alternate day dressings. Inpatients had check out dressings on third post operation day and suture removal on 8<sup>th</sup> post operation day.

### RESULTS

Table 1: Age and sex distribution of patients

	Total	Percentage
Age Groups (yrs)	0-10	18
	11-20	15
	21-30	22
	31-40	22
	41-50	10.5
	51-60	06
	61-70	05
	71-80	0.5
	81-90	01
	Total	200
Sex	Male	64.5
	Female	35.5

It was observed that majority of the patients (77%) undergone day care surgeries were less than 40 years of age. Majority of the patients were male (64.5%).

**Table 2:** Distribution of various surgeries performed as day care surgery

Sr. No.	Name of the surgical procedure	Day care surgery	Inpatient surgery
1	Breast lump excision and Biopsy	22	11
2	Inguinal hernia repair Adult	7	3.5
3	Inguinal hernia repair Adult	6	3
4	Varicocoele	1	0.5
5	Hydrocoele	5	2.5
6	Open hemorrhoidectomy	4	2
7	Pile band ligation	2	1
8	Fissure in ano	4	2
9	Fistula in ano	2	1
10	Pilonidal sinus excision and closure	4	2
11	Abscess drainage	26	13
12	Appendectomy	5	2.5
13	Gynaecomastia Excision	2	1
14	Circumcision	15	7.5
15	Lymph node Biopsy	12	6
16	Toe nail Excision	2	1
17	Muscle biopsy	1	0.5
18	Skin biopsy	2	1
19	Lipoma excision	13	6.5
20	Sebaceous cyst Enucleation	11	5.5
21	Rectal polyp excision	2	1
22	Corn excision	12	6
23	Auroplasty	1	0.5
24	Dermoid cyst enucleation	10	5
25	Ganglion excision	2	1
26	CLW suturing	19	9.5
27	Polydactaly excision	8	4

The above table show distribution of various surgeries performed as day care surgery.

**Table 3:** Type of anesthesia used

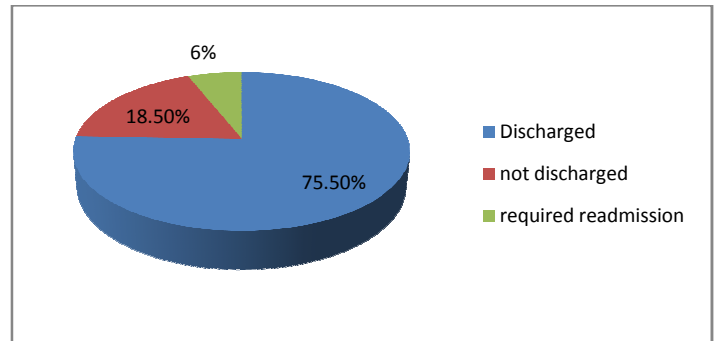
Type of anesthesia	No. of patients	Percentage
General anesthesia	57	28.5
Local anesthesia	126	63
Spinal anesthesia	17	8.5

It was seen that majority of the patients (63%) in the study were operated under local anesthesia followed by were general anesthesia (28.5%).

**Table 4:** Day care status of patients

Day care status	No. of patients	Percentage
Discharged	151	75.5
Not discharged	37	18.5
Required readmission	12	6

In the present study 18.5% were not discharged where as 6% patients required readmission for various reasons.



**Figure 1:** Day care status of patients

**Table 5:** Distribution of patients according to reasons for not discharged or readmission

Causes	Not discharged		Re admission	
	No. of Patients	%	No. of Patients	%
Pain	8	4	4	2
Nausea and vomiting	10	5	3	1.5
Urinary retension	2	1	0	0
Dead limb	3	1.5	0	0
Excessive blood loss	5	2.5	0	0
Patients not reporting on time/drugs not available	2	1	0	0
Travel/escort facilities not available	7	3.5	0	0
Wound infection	0	0	5	2.5
<b>Total</b>	<b>37</b>	<b>18.5</b>	<b>12</b>	<b>6</b>

Nausea and vomiting was the most common reason for inability to discharge patients as day care surgery which was observed in 5% patients of the total patients. 12 patients (6%) needed readmission. Out of these 3 patients had nausea and vomiting. Four patients had pain after discharge and five patients had wound discharge.

## DISCUSSION

The present study was conducted in the department of surgery of Swami Ramanand Tirth Rural Medical College, Ambajogai, Dist. Beed. Total 200 patients were enrolled in the study who were undergone various surgeries on day care basis. It was observed that out of the total number of patients operated, 77% were below 40 and years of age and 18% were pediatric patients. Majority of the patients operated were male (64.5%) as compared to female patients (35.5%), mainly due to the reluctance on part of the female patients to gate operated as day surgery cases. Only 6.5% geriatric patients were operated as day care surgery patients as majority of them had no escort to take home and most of them had accompanying cardio-respiratory problems. Most patients 126 (63%), were operated under local anesthesia or local anesthesia supplemented with sedation

and 57 patients (28.5%) were operated under general anesthesia with or without endotracheal intubation. Kama *et al*<sup>5</sup> observed 51% patients operated under local anesthesia and 49% patients operated under general anesthesia in their study. In the present study the penitents who were operated under general anesthesia included mostly pediatric patients, patients under failed local or spinal anesthesia and patients with minor abscess and anxious patients. 37 patients out of 200 (18.5%) could not be discharged on day care basis. The proportion was much higher as compared to 5% in the Ahmad *et al*<sup>6</sup> series. The main reason for these differences was that in the present series the study was held at a rural hospital where a large number of patients could not be discharged for lack of transport and lack of qualified medical personnel in the villages. Nausea and vomiting was the most common reason for inability to discharge patients as day care surgery which was observed in 5% patients of the total patients. Nausea and vomiting was followed by pain (4%), excessive blood loss (2.5%) patients and travel / escort facilities not available (3.5%). The above results can be compared with Gold *et al*<sup>7</sup> and Wasowicz *et al*<sup>8</sup>. The reasons of urinary retention, dead limb and non availability of escort are found exclusively in our series as they were seen in patients operated under spinal anesthesia and non availability of transport due to the rural setup. Out of these 37 patients 21 patients were discharged the very next day and these included mainly patients having nausea and vomiting, local pain and non-availability of transport or escort facilities. 9 patients were discharged after 48 hours; these patients had nausea and vomiting, post spinal headache and excessive bleeding from wounds. 12 patients (6%) needed readmission. This can be compared with a readmission rate of 7% in the Wasowicz *et al*<sup>8</sup> series. Out of these 3 patients had nausea and vomiting. Four patients had pain after discharge and five patients had wound discharge. Readmissions were done mainly due to anxiety on the

part of the patients living in rural areas and in patients with wound discharge to find out the microbiological etiology of infection. The main reason of nausea and vomiting was found to be that the patient had consumed whole diet and not soft diet prescribed on discharged and especially in patients in whom general anesthesia was given or I.V. sedation was used.

## CONCLUSION

Day care surgery was well accepted in young patients with ASA grade I and II. Thus Day care surgery when performed with all due precautions and careful selection and meticulous preparation has a wide safety margin and a good success rate.

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