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Original Article

Surgery Section

Comparative Study of Feasibility of Day-Care Surgery in Rural and Urban Patients

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ABSTRACT

Background: Day-care surgery is a common procedure in most of the hospitals. It has the advantages of early discharge and thus contributes to cost effectiveness.

Objectives: The aim of this study was to compare the feasibility of day-care surgery in rural and urban patients.

Material and Methods: Around 200 cases undergoing day-care surgeries of various types in urban and rural patient were enrolled randomly in the study.

Results: The maximum number of patients in both the groups were between the range of 21-40 years. The most frequent surgery in rural group was dilatation and curettage (25%) and in urban group was herniotomy (20%). In follow up only 1% complication occurred in rural group with 6% patients were lost in follow up and 4% changed the treatment center. In urban patients follow up was uneventful. The urban group people were more educated than the rural group.

Conclusion: Day-care surgery is overall a beneficial procedure but understanding of the patient regarding the surgery and importance of follow up according to educational standard and intellectual status are very important criteria.

Keywords: Day-care surgery, Urban patients, Rural patients

INTRODUCTION

In modern era of medical practice many centre are performing day-care surgery with their norms. It is a well established way of treatment in surgically ill patients. It reduces postoperative cost and patients load which is beneficial for patient as well as hospital [1]. Day-care surgery is defined as planned investigations or procedure on patients who are admitted and discharged home on the day of their surgery and require some facility and time for recovery [2]. Usually patients are selected on the basis of their pathology or disease and fitness. But patients understanding and intelligence should always be evaluated to perform this type of ambulatory surgery.

Our study is regarding the feasibility of day-care surgery in rural and urban patients. We conducted the study in urban and rural patients who were well informed regarding the day-care surgery and compared its importance in terms of follow up. The educational standard was considered as main criteria of intellectual status in both the groups.

MATERIAL AND METHODS

The study was conducted at rural and urban centers. The urban center was at J.L.N. Medical College and Hospital, Ajmer and rural centre was at N.I.M.S Medical College and Hospital, Achrol. At each centre 100 cases undergoing day-care surgeries were randomly enrolled. The educational standard of each patient was evaluated as uneducated, literate and up to graduate and above.

All cases were evaluated to exclude systemic diseases and for their present status preoperatively by detailed history, clinical examination, routine investigations and specific investigations according to pathology [3,4]. All investigations were carried out prior to admission on out patient basis. Only those patients who were fit for day-care surgery were enrolled in the study. The patients were instructed to take nothing by mouth from night prior to day of surgery. These patients were given anxiolytic premedication. Patients were operated in local, spinal and general anesthesia. Single dose of antibiotic was given preoperatively. Operated patient were discharged within 24 hours of surgery.

Patients were discharged according to the discharge criteria [1]. The patients with fully conscious status, stable vitals and with no surgical complications were discharged. On discharge written and verbal instructions were given. The patients were instructed to look for any complications and a contact number was given for follow up or in case of any other problems. These patients were followed up telephonically 8 hours after discharge. Patients were instructed to come for further follow up after 48 hrs and on 8th or 9th postoperative day.

RESULTS

A total of 200 patients were included in the study with 100 urban and 100 rural patients. The maximum numbers of patients in both the groups were between the ranges of 21-40 years [Table/Fig-1]. The most frequent surgery in rural group was dilatation and curettage (25%) and in urban group was herniotomy (20%) [Table/Fig-2]. In follow up only 1% complication occurred in rural group with 6% patients were lost in follow up and 4% changed the treatment center [Table/Fig-3]. In urban patients follow up was uneventful. None of the patient had any complication in urban group and all the patients visited in the follow up.

Maximum cases were performed under general anesthesia (60% in rural group and 59% in urban group) but spinal and local anesthesia was also used according to case and its requirement [Table/Fig-4].

S. No.	Group	No. of Cases in rural group	% of all cases	No. of cases in urban group	% of all cases
1.	< 1 year	0	0%	03	3%
2	1 to 10 years	38	38%	35	35%
3	11 to 20 years	10	10%	13	13%
4	21 to 30 years	24	24%	21	21%
5	31 to 40 years	26	26%	24	24%
6	41 to 50 years	02	2%	00	0%
7	50 to 60 years	00	0%	04	04%

[Table/Fig-1]: Age distribution of patients in rural and urban group

S. No.	Type of operations	Rural group		Urban group	
		Total operations	% of Operations	Total operations	% of Operations
1	Fibro adenoma excision	2	2%	9	9%
2	Varicocelectomy	2	2%	5	5%
3	Subcutaneous mastectomy	1	1%	2	2%
4	Lord stretching	5	5%	7	7%
5	Fistulectomy	2	2%	2	2%
6	Cervical lymph node excision	4	4%	5	5%
7	Lord placation	4	4%	4	4%
8	Pilonidal sinus excision	1	1%	2	2%
9	Lipoma excision	0	0%	6	6%
10	Circumcision	4	4%	11	11%
11	Dorsal slitting	2	2%	10	10%
12	Herniorrhaphy/ Hernioplasty	5	5%	3	3%
13	Herniotomy	18	18%	20	20%
14	Granuloma pyogenicum excision	0	0%	2	2%
15	Sebaceous cyst excision	0	0	2	2%
16	Piles ligation	4	4%	3	3%
17	Dermoid cyst excision	2	2%	4	4%
18	Neck sinus excision	0	0%	1	1%
19	Orchidectomy	1	1%	1	1%
20	Elective appendecectomy	2	2%	0	0%
21	Dilatation and Curettage	25	25%	0	0%
22	Perineal tear repair	2	2%	0	0%
23	Cervical conization	2	2%	0	0%
24	Os tightening	4	4%	0	0%
25	Ovarian cyst excision	8	8%	0	0%

[Table/Fig-2]: Types of operations performed in rural and urban groups

	Finding	Rural group		Urban group	
S. No.		Total cases	% of cases	Total cases	% of cases
1	Swelling	0	0%	0	0%
2	Stitch line abscess	0	0%	0	0%
3	Bleeding/hematoma	0	0%	0	0%
4	Post-operative fever	1	1%	0	0%
5	Patient lost in follow up	6	6%	0	0%
6	Patent replied that they are taking treatment from other centre	4	4%	0	0%
7	Blaming for ignorance and early discharge	2	2%	0	0%

[Table/Fig-3]: Follow up and complication rates in rural and urban groups

		Rural group		Urban group	
S.No.	Type of Anesthesia	Total cases	% of all cases	Total cases	% of all cases
1	General Anesthesia	60	60%	59	59%
2	Spinal Anesthesia	20	20%	8	8%
3	Local Anesthesia	20	20%	33	33%

[Table/Fig-4]: Types of anesthesia given in rural and urban groups

S. No.	Educational standard	Rural group (Percentage %)	Urban group (Percentage %)
1	Uneducated	11	0
2	Literate	29	14
3	Senior secondary	32	23
4	Graduate and above	28	63

[Table/Fig-5]: Educational status of patient and guardians (for minors only)

In urban group all the patients were educated and maximum number of patients (63%) belonged to the standard of graduate and above. In rural group most of the patients (32%) belonged to education status of senior secondary and 11% patients were illiterate also [Table/Fig-5].

DISCUSSION

Day-care surgery is convenient way of treatment for both doctor as well as patient, moreover is economical and reduces hospital's resource utilisation optimization [5].

Immediate post operative period was uneventful in all the patients which are in concurrence to previous study by Paras Jain [6]. Postoperative anesthetic complication was reported in only one case but managed without admission in urban group.

In rural group, average duration of hospital stay was 9 hours and in urban 8 hours which was found to be in agreement with previous studies by Vasquez G et al., and Bapat RD [7,8]. According to cost, there was 56.5% cost reduction found in urban area and 62% cost reduction in rural area, which is also in concurrence with previous study by Taheri P A et al., [9].

In our study there was no readmission. It is in conjunction with the previous studies done by Senapati and Young [5]. After comparing with study by Senapati and Young, it was found that day-care surgery in our study is also comparable in cost effectiveness, promotion of early discharge and in hospital acquired infections [5,10].

In our study two patients of rural group were not satisfied blaming early discharge and not using prolong course of injectable drugs, whereas this type of situation did not happened in urban group. When we explored this situation we found that this was because of the complete prior knowledge regarding the procedure in urban patient as well as desperateness to remain in follow up with the operating doctor. While this kind of behavior was not observed in some rural patients.

In our study we were not able to follow up 6 patients in rural group. We found it because of wrong addresses and phone number of the patient due to clerical mistake or by patients providing wrong addresses. These patients also did not turn up in further follow ups so we were not able to comment on these patients.

We also observed in follow up of the patients that when some of the patients had simple problems related to surgery then these were wrongly informed about more severity of the condition by other unskilled personnel. This might be because of lack of knowledge or money making attitude of these persons to treat small problems with wrong explanations. We propose that change of treatment center is usually not beneficial for the day-care patient because of the skills and qualifications of new center for post operative patient is not clear. This is more beneficial for the patient to remain in follow up with the treating surgeon.

Most importantly all the above factors were well correlated to the intellectual status of the patients in terms of educational standards. In our study patients of rural group having low educational standard or illiterate group were more ignorant about the importance of follow up. The importance of educational standard as major factor in deciding health status is also highlighted by Wingard DL and by health information of India [11,12]. We propose that the

educational standard should also be one of the very important criteria for selection of patient in day-care surgery.

CONCLUSION

Although, day-care surgery is beneficial in overall, however, in our opinion, patient fitness and procedure type should not be the only criteria for day-care surgery but patient's intelligence and self motivation to remain in follow up and availability of transportation facility should be assessed specifically in patient of rural area.

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