



Acceptance of Laparoscopy in lower socio-economic sections of community visiting medical college hospital

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ABSTRACT

**Background:** More than 3 decades have passed since the introduction of laparoscopy. Still there is lot of unawareness among the surgical patients regarding its advantages. This study was aimed at educating and extending the benefits of laparoscopy to surgical patients visiting a medical college.

**Methods:** During 18 months of the study period, total 288 patients were diagnosed who could be treated by either open surgery or laparoscopy. Based on the literature about laparoscopic surgery, a questionnaire was given to all the patients. At the end of it, patients were counselled about advantages and disadvantages of laparoscopy. The patients made informed decision about the type of surgery advised. Ninety eight patients were treated by laparoscopy.

**Results:** Most of the patients (83%) were aware about laparoscopy and almost half (45%) of them were willing to opt for the same. A third of the patients were unwilling to opt for laparoscopy even after counselling.

**Conclusion:** Laparoscopy is an already established surgical technique. Through education and counselling, the benefits of this technique can be extended to larger population. It is cost effective and can be successfully practiced in charitable hospital.

KEYWORDS

Diagnostic Laparoscopy; Acceptance of Laparoscopy; Advantages of Laparoscopy; Laparoscopy; Laparoscopic Surgery; Minimal Access Surgery; Minimally Invasive Surgery

Introduction:

The Terna Medical College, situated at Nerul, Navi Mumbai, caters to urban as well as rural population mostly from low socio-economic strata. The average daily patient attendance in outpatient department (OPD) of all departments is 600 of which general surgery OPD attendance is 100 patients. Among the patients visiting surgery OPD, we came across varied opinions and perceptions regarding laparoscopic treatment of several surgical ailments. The patients seemed to be ill-informed about the success rate and results of laparoscopic surgery. Therefore we designed a questionnaire to gather information on the same in a structured manner. At the end of this study, every patient was aware about laparoscopy; however they would not always prefer it for their treatment. Though not all the patients opted for laparoscopy, it can be said that the biggest achievement of this study was that every patient who underwent surgery was educated about laparoscopy.

Material and Methods:

From July 2015 to December 2016 (18 months), 1296 patients underwent various surgeries in the department of general surgery. Of them, 288 surgeries were performed for diseases which can be treated either by traditional open surgery or laparoscopy (henceforth called as Relevant Study Group - RSG). All 288 patients were given a questionnaire (Table No. 1) to get objective response about their opinion and perception regarding laparoscopy. Based on the response, the RSG patient and relatives were educated about the laparoscopic technique available, its advantages and disadvantages as compared to traditional open surgical technique, associated morbidity and risk (if any) and additional costs involved. Except for laparoscopic hernia repair, all other surgeries could be performed without additional cost burden to the patient. The decision to proceed with laparoscopy or open technique was made by the patient after answering the questionnaire and counselling by the surgeon. Every patient was explained about advantages and disadvantages of choosing a particular option between laparoscopy and open technique.

Table No. 1: The Questionnaire

Questions	RSG (Total 288) Patients' Response (number of patients) (%)		
1. Are you aware about the Laparoscopic Surgical Technique?	Yes (240) (83%)	No (48) (17%)	Few patients who initially replied "No" to these questions opted for laparoscopy after counselling by the surgeons
2. Are you aware that your ailment can be treated by Laparoscopy?1,2,3,4,5,6	Yes (110) (38%)	No (178) (62%)	
3. Are you aware that laparoscopic surgery may be less painful as compared to open surgery?1	Yes (150) (52%)	No (138) (48%)	
4. Are you aware that laparoscopic surgery may be associated with lesser complications as compared to open surgery?4,7,8	Yes (102) (35%)	No (186) (65%)	
5. Are you aware that hospital stay may be shorter after laparoscopy as compared to open surgery?5	Yes (95) (33%)	No (193) (67%)	
6. If "Yes" to all above questions, would you prefer Laparoscopic Surgery over open surgery?	Yes (130) (45%)	No (110) (38%)	Not Sure (48) (17%)
7. If "No" to question No. 6, why?	Uncertainty about success (33/110) (30%)	Concerned about new technology (37/110) (34%)	Financial limitations (40/110) (36%)
8. Would you recommend Laparoscopy to other patients?	Yes (130) (45%)	No (110) (38%)	Not Sure (48) (17%)

The commonly performed surgeries in the department of general surgery (Table No. 2) were different types of hernia repair, cholecystectomy, appendectomy and diagnostic laparoscopy. The surgical approach (open or laparoscopy) was decided based upon 3 factors: a. technical feasibility of laparoscopic surgery for the given diagnosis, b. patient's consent for laparoscopy c. patients' affordability. The same set of surgeons performed all the surgeries throughout the study period.

**Table 2: The Distribution of surgeries performed**

Type of Surgery	Open Surgery	Laparoscopy	Total
<b>Cholecystectomy</b>	54	32	<b>86</b>
<b>Appendectomy</b>	18	35	<b>53</b>
<b>Inguinal Hernia</b>	80	4	<b>84</b>
<b>Umbilical Hernia</b>	25	0	<b>25</b>
<b>Incisional Hernia</b>	13	0	<b>13</b>
<b>Diagnostic Laparoscopy</b>	0	27	<b>27</b>
<b>Total</b>	<b>190</b>	<b>98</b>	<b>288</b>

Since the study was performed in a medical college catering to patients mostly from lower socio-economic strata, we could offer only basic laparoscopic surgeries. Advanced laparoscopic procedures could not be offered to the patients because of the higher costs involved. The medical college does not have bariatric surgery program, therefore these cases are conspicuously absent in our study. Similarly, surgeries on bowel & colorectal surgeries were performed by traditional open technique to avoid additional costs of surgical staplers. Gynaecological procedures were not included in this study.

## Results

Among 288 patients in the RSG, 240 (83%) already had some knowledge about laparoscopic surgical technique. The remaining 17% patients were informed about availability of laparoscopy in the hospital. One hundred and ten (38%) patients were also aware that their ailment can be managed by laparoscopic surgery. The other 62% patients, including those who learnt about laparoscopy at the time of the questionnaire, did not know that laparoscopy was possible for their treatment. Thus, after answering question no. 1 and 2, all the RSG patients were educated about availability and feasibility of laparoscopic surgical treatment. Almost half (52%) of the RSG patients knew that laparoscopic surgery is less painful as compared to open surgery. Based on the literature, patients were asked whether they knew about lesser rate of complications and shorter hospital stay after laparoscopy (question no. 4 and 5). One third of the RSG patients (35% and 33% respectively) replied affirmatively. After counselling the RSG patients about laparoscopic surgical outcomes, 130 (45%) patients opted for the same. The fraction of patients (48, 17%) was unsure about which type of surgery they should opt for while 110 (38%) patients refused to undergo laparoscopy. The reasons cited by the patients who refused laparoscopy were uncertainty about successful surgery, concerns regarding new technology and financial limitations. A total of 130 (45%) patients consented for laparoscopic surgery and eventually 98 of them were successfully operated. Some of the patients (32) could not undergo laparoscopy because of financial limitations (example: laparoscopic umbilical/incisional hernia which required composite mesh). At the end of study period, it was found out that all of these 130 patients would recommend laparoscopy to their family but 17% were still unsure about it.

## Discussion:

All around the world, the awareness of minimally invasive surgery is steadily increasing. As the service providers, it is our responsibility to educate the population and extend the benefits of advances in surgical speciality. There is adequate literature to support the laparoscopy as preferred surgical technique. Most of the patients undergoing surgery are concerned about post-operative pain. The laparoscopic technique is much less painful as compared to open surgery<sup>1</sup>. The laparoscopic surgery is also found to be associated with lesser rate of infective complications<sup>5,7,8</sup>. This benefit may be

attributed to smaller incisions facilitating early mobilization and recovery. In a study by Kössler-Ebs JB et al, it was found that rate of incisional hernia was much less following laparoscopy as compared to open surgery<sup>4</sup>. It is further documented that there is no apparent difference in recurrence between laparoscopic and open mesh methods of hernia repair<sup>9</sup>. Therefore laparoscopy is also a preferred technique for repair of various types of hernias. In presence of complications, laparoscopy has been found to be more beneficial for treatment, even in young population<sup>7</sup>. In elderly patients and also in emergency situations, laparoscopy has established itself as safe alternative technique<sup>2</sup>. At some centres, the protocols for management of emergencies have been favouring laparoscopy over traditional open surgery<sup>3</sup>. In a study among pregnant patients by Cox TC et al, laparoscopy was found to be safe technique which was not only associated with lesser rate of complications, it also reduced length of hospital stay<sup>5</sup>. Even though laparoscopic surgery may be technically demanding in presence of certain complications, in experienced hands it is safe and effective<sup>10</sup>. It does not increase the mortality and the morbidity rate with a low conversion rate and no difference in hospital stay. Minimally invasive surgery thus is associated with reduced overall morbidity<sup>11</sup> and length of stay<sup>6,11</sup>.

When patients are counselled about queries regarding all above factors, and the decisions are backed by literature, the patients make informed decision about their choice of the surgical technique.

## Conclusion:

Minimally invasive surgery or laparoscopy is a promising technique which is evolving as a preferred surgical modality depending on diagnosis and feasibility. Increasing number of people are becoming aware of its advantages regarding less pain, lesser complications, shorter hospital stay and safety. Even in a medical college hospital, more than half of the patients were found to be aware about laparoscopy and almost half the patients were willing to undergo laparoscopy if it was made available. As per our experience, it is cost effective and can be easily practiced in charitable hospital. The minimally invasive surgery has been widely accepted as standard surgical technique. Through education and counselling, these benefits can be further extended to larger population.

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