

Determine the Complications of Modified Open Procedure of Umbilical Camera Port Placement in Patients Undergoing Laparoscopic Cholecystectomy

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ABSTRACT

Aim: To examine the intra-operative and post-operative complications of modified open method of umbilical camera port insertion in patients undergoing laparoscopic cholecystectomy.

Study design: Descriptive/Observational study.

Place and duration: Department of Surgery, DG Khan Medical College Dera Ghazi Khan from 1st January, 2018 to 31st December 2019.

Methods: One hundred and fifty patients of both genders undergoing lap cholecystectomy were enrolled in this study. Patient's demographics details were recorded after taking written consent. All patients received modified open procedure of umbilical camera port insertion. Intra-operative and postop complications were examined.

Results: There were 110(73.33%) females and 40(26.67%) males. 18(12%) patients had ages 20 to 30 years, 48(32%) had ages 31 to 40 years, 64(42.67%) patients had ages 41 to 50 years and 20(13.33%) patients had ages above 50 years. None of patient had any intra-operative complications (viscera or vessels). 4(2.67%) patients found to have port site infection and 2(1.33%) patients had developed port site hernia.

Conclusion: Modified open method for umbilical camera port placement in patients undergoing laparoscopic cholecystectomy is safe and effective with fewer complications.

Keywords: Laparoscopic Cholecystectomy, Modified open Umbilical Camera Port Placement, Viscera,

INTRODUCTION

Laparoscopic access is mandatory for laparoscopic surgery. The important initial step of laparoscopic surgery requires the safe insertion of the initial or primary port. Primary port insertion can potentially cause visceral and vascular injury. It is estimated that about 50% of complications in laparoscopic surgery occur during entry.¹ Closed access techniques could result in injury to major vessels, bowel, and bladder. Open techniques for access are thought to be safer than closed methods but are also associated with similar complications^{2,3}.

Several methods have been described, but they require special equipments to accomplish like the optical port.⁴ Open access techniques usually require instruments for mini laparotomy while Hasson's technique requires a special Hasson's port⁵. Blind insertion of the Veress needle and of the first trocar is a significant cause of complications during laparoscopic surgery^{6,7}. Despite this risk, the closed technique is still more popular than the open one. Nevertheless, open laparoscopy has not been widely adopted mainly due to gas leakage from the wound and because it is time-consuming. Injuries to underlying viscera and vessels by needles and trocars have been reported even when the open technique is used^{8,9,10}.

The Present study was conducted aimed to examine the intraoperative and postoperative complications associated to modified open method of umbilical camera port placement in patients undergoing laparoscopic cholecystectomy.

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MATERIALS AND METHODS

This observational/descriptive study was conducted at Department of Surgery, DG Khan Medical College Dera Ghazi Khan. A total 150 patients of both genders with ages above 20 years undergoing laparoscopic cholecystectomy were enrolled. Patients detailed demographics including age and sex were recorded. Patients with history of previous lower midline laparotomy and those converted to open method were excluded. In all the patients four-ports were used for laparoscopic cholecystectomy with modified open method of camera port placement in umbilicus. Intra-operative complications such as viscera or bowel injury were examined. Post-operative complications such as wound infection and port-site hernia were examined. All the data was analyzed by SPSS 24.

RESULTS

Out of 150 patients 110(73.33%) patients were females and 40(26.67%) were males. 18 (12%) patients had ages 20 to 30 years, 48(32%) had ages 31 to 40 years, 64(42.67%) patients had ages 41 to 50 years and 20(13.33%) patients had ages above 50 years (Table 1).

Table 1: Age and sex-wise distribution of patients

| Variable | No. | % |
|--------------------|-----|-------|
| Gender | | |
| Male | 40 | 26.67 |
| Female | 110 | 73.33 |
| Age (years) | | |
| 20 – 30 | 18 | 12 |
| 31 – 40 | 48 | 32 |
| 41 – 50 | 64 | 42.67 |
| >50 | 20 | 13.33 |

In our study, none of patients had major intra-operative complications such as viscera or bowel injury. The post-operative complications, we found 4(2.67%) patients had port site infection and 2(1.33%) patients had developed port site hernia (Table 2).

Table 2: Frequency of post-operative complications

| Complication | No. | % |
|----------------------------|-----|-------|
| Port site infection | | |
| Yes | 4 | 2.67 |
| No | 146 | 97.33 |
| Port site hernia | | |
| Yes | 2 | 1.33 |
| No | 148 | 98.67 |

DISCUSSION

Laparoscopic procedures are most commonly performed surgical treatment modality due to lower rate of complications.¹¹ Laparoscopic cholecystectomy is one of the most commonly performed surgical procedures in all over the world due to high success rate¹². Modified open procedure of camera port placement (primary) in the umbilicus is considered as safe and effective treatment modality in laparoscopic surgical treatments¹³. Present study was also conducted to examine the safety and effectiveness of modified open method of umbilical camera port insertion in patients undergoing laparoscopic cholecystectomy. In this regard 150 patients were analyzed. Out of 150 patients, majority of patients were females 73.33% as compared to males 26.67%. These results were similar to many of previous studies regarding laparoscopic cholecystectomy in which females were predominant 60 to 78% as compared to males^{14,15}.

In present study we found that majority of patients 74.67% had ages between 30 to 50 years and 13.33% patients had ages above 50 years. 12% patients had ages 20 to 30 years. These results showed similarity to several other studies in which majority of patients 40-65% had ages between 40 to 60 years^{16,17}.

In our study we found that none of patients had developed any intra-operative complications such as visceral or bowel injury. A study by Khan et al¹⁸ reported 0% intra-operative complications associated to modified open method for primary port insertion. However, post-operative complications were seen and 4(2.67%) patients had port site infection and 2(1.33%) patients had developed port site hernia. Khan et al¹⁸ reported 1.08% port site infection and 0.54% port site hernia. Another study by Somu et al¹⁹ reported 1.18% port site infection 0.175% port site metastasis. In some other studies, it was seen that modified open method of camera port placement in umbilicus is safe and effective with fewer rate of wound infection and port site hernia²⁰⁻²².

CONCLUSION

We conclude that modified open method for umbilical camera port placement in patients undergoing laparoscopic cholecystectomy is safe and effective. Very low rate of port site infection and port site hernia was observed.

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