Original Article

Prevalence of Post Laparoscopic Cholecystectomy Umbilical Port Site Infection

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Muhammad Mushtaq, Ashar Ahmad Khan, Muhammad Waqas Arshad, Shahzeb Asghar, Saim Athar and Muhammad Zubair Siddiqui

ABSTRACT

Objective: To assess the prevalence of umbilical port site infection post-cholecystectomy.
Study Design: A current descriptive cross-sectional study
Place and Duration of Study: This study was conducted at the Surgery at Ibn e Sina hospital Multan from October 2022 to March 2023.
Methods: The current descriptive cross-sectional study was conducted at the Department of Surgery at Ibn e Sina hospital Multan from October 2022 to March 2023 after approval from the institutional review board. A total of 95 participants were selected through purposive sampling technique aged from 20-70 years irrespective of their gender. Informed consent was obtained from each patient and they were assured that privacy and confidentiality will be maintained. All the individuals were at 5 days of surgery. All the data were collected through observations of patients, and lab reports, moreover, all the data were analyzed by using the latest version of SPSS 24.
Results: A total of 95 participants were selected for the present study. The age of the participants was from 20-70 years. There were 27 (28.42%) of the individuals from 31-40 years and 23 (24.21 %) of the participants were from 51-60 years of age, furthermore, 19 (20%) of the patients were from 41-50 years of age. There were 37 (39.58 %) males and 58 (60.41 %) females having male to the ratio of 0.6:1. The post-op port infection was 13 (13.68 %), however, the most common of them was umbilical 7 (53.84 %) subsequent to them was epigastric 3 (23.07 %) and 2 (15.38 %) of them were suprapubic infections.
Conclusion: The present study concluded that the most common complication among the patients who underwent cholecystectomy was umbilical infection (53.84 %) followed by epigastric infection. Therefore, this can be minimized by proper aseptic techniques and post-op care of the patients.
Key Words: cholelithiasis, laparoscopic cholecystectomy, post-op infection, gallstones

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INTRODUCTION

Since the development of laparoscopic surgery, open gallbladder removal has essentially been phased out of medical practice[1]. Cholelithiasis, pancreas inflammation, and gallbladder stones as well as gallbladder tumors, or polyps are some of the conditions that can be treated with laparoscopic surgery[2].

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Gallbladder excision with a laparoscopy cholecystectomy is considered the surgical therapy of choice because it is safe and the gold standard. There is always the possibility of something going wrong during surgery; however, the risk of problems during laparoscopic surgery is significantly reduced. During the process of removing the gall bladder, one of the main complications that might arise is the rupture of a gall bladder, which can then cause bile to leak out[3]. Furthermore, there was also sufficient evidence of infection problems as a result of stones that were not collected as well as bile that spilled out[4]. The procedure most frequently conducted by general surgeons that require fundamental laparoscopic equipment is called a cholecystectomy performed using laparoscopic. Over eighty percent (80%) of instances in which stones are found in the gallbladder remain unnoticed, as well as gallstones produce indications in a small percentage of cases (between 1-4 %) yearly[5]. Surgical treatment is preferred for those with gallstones that are accompanied by symptoms; however, the "keep an eye on and patiently wait" strategy has been suggested for patients with gallstones that do not

produce symptoms[6,7]. In the years prior to the development of the laparoscopy technique for the procedure, open surgery remained the standard method for the surgical removal of gallstones.

Laparoscopy surgery to remove the gallbladder, on the other hand, has emerged as the surgical approach of choice in recent years[8,9]. Due to the fact that it has a number of advantages, such as the fact that it serves as a relatively simple and minimally invasive procedure [5]. cost productivity; correlation with a quick procedure duration, in addition to a shortened duration in the hospital, and a speedy recuperation following surgery for patients who have undergone a cholecystectomy through the laparoscopic[6,10]. Individuals undergoing challenging cases of laparoscopy for cholecystectomy are informed about postoperative morbidity and the procedure can now be considered a daycare procedure[12]. After a cholecystectomy performed using laparoscopic additional complications, such as following surgery discomfort and a high temperature, ileus, and intraoperative or postoperatively bleeding, have been recorded in the medical literature. These issues might occur at any point after the procedure[11-12]. After the procedure of laparoscopic cholecystectomy, there has been a documented occurrence of bile leakage ranging from 0.2 percent to 2 percent[11]. Around 9000 cholecystectomies were conducted over the course of 9 years, and there was a 2.3% occurrence of intra-operative bleeding, 15.9% during the operation gallbladder puncture, and a 0.1% rate of occurrence with ordinary bile duct injury[12].

METHODS

The current descriptive cross-sectional study was conducted at the Surgery at Ibn e Sina hospital Multan from October 2022 to March 2023 after approval from the institutional review board. A total of 95 participants were selected through purposive sampling technique aged from 20-70 years irrespective of their gender. Informed consent was obtained from each patient and they were assured that privacy and confidentiality will be maintained. Before the surgery ultrasound had been done for each participant to confirm their cholelithiasis. Individuals who have more age than the pre-set criteria and have diabetes Mellitus, heart diseases, hypertension, pancreatitis, and other autoimmune diseases were excluded from the study, while those who have cholelithiasis, those who were willing to participate and age according to the criteria were included in the study. All the individuals were at 5 days of surgery. All the data were collected through observations of patients, and lab reports, moreover, all the data were analyzed by using the latest version of SPSS 24.

RESULTS

A total of 95 participants were selected for the present study. The age of the participants was from 20-70 years. There were 27 (28.42%) of the individuals from 31-40 years and 23 (24.21 %) of the participants were from 51-60 years of age, furthermore, 19 (20%) of the patients were from 41-50 years of age. There were 37 (39.58 %) males and 58 (60.41 %) females having male to the ratio of 0.6:1. Table 2 highlights the post-op port site infection. The post-op port infection was 13 (13.68 %), however, the most common of them was umbilical 7 (53.84 %) subsequent to them was epigastric 3 (23.07 %) and 2 (15.38 %) of them were suprapubic infections.

Table No. 1: Demographic Characteristics

Age	Number	Percentage
20-30	12	12.63%
31-40	27	28.42 %
41-50	19	20 %
51-60	23	24.21 %
61-70	14	14.73 %
Gender		
Male	37	39.58 %
Female	58	60.41 %

Table No. 2: Post-Cholecystectomy Port Site Infections

Infection	Number	Percentage
Umbilical	7	53.84 %
Epigastric	3	23.07 %
Suprapubic	2	15.38 %
Palmer's point	1	7.69 %

DISCUSSION

Medical practitioners generally agree that laparoscopic cholecystectomy is the most effective option for people having gallstones[11]. The reason for this is that laparoscopic cholecystectomy has many benefits than the more conventional methods of getting rid of the gallbladder, that is, scarring, and a quicker recovery time, hospital stays, postoperative mortality, and other complication rapid movement of the patients[12]. Individuals shouldn't ignore port site infections as insignificant medical problems because of the lasting effects they might have on their lives[13]. Problems are possible in both open and laparoscopic procedures. Everyone of all ages along with males and females experienced port site issues, which can be broken down into two categories: complications following surgery as well as access-related difficulties[14]. In the current study, there were 27 (28.42%) of the individuals from 31-40 years and 23 (24.21 %) of the participants were from 51-60 years of age, furthermore, 19 (20%) of the patients were from 41-50 years of age.[15,16] There were 37 (39.58 %) males and 58 (60.41 %) females. A similar study conducted by Shaikh B et al that infection could be different depending on which hole is used to take the sample. The epigastric port had the highest infection rate (58%) while the umbilical port had the second-

highest infection rate (42%)[17]. In the present study, the post-op port infection was 13 (13.68 %), however, the most common of them was umbilical 7 (53.84 %) subsequent to them was epigastric 3 (23.07 %) and 2 (15.38 %) of them were suprapubic infections. Another comparable study by Ali J reported that the prevalence of infection at the port site showed 5.3%, as well as there was a statistically significant correlation between the total quantity of antibiotic treatments required with the proportion of female patients[18]. A study conducted by Ravindranath GG et al that infection around the port site occurred in 21 patients (6.4%). There was a total of 32 people, 16 female (7%) plus 5 men (5.1%). Eleven (52.4%) of infections occurred around the umbilical region, whereas eight (38.1%) occurred across the epigastric region[19]. A study conducted by Dalwani AG et al that the gender distribution consisted of men 15.5% along with females 84.5%. A majority of the participants (93.0%) went through cholecystectomy as a consequence of manifesting symptoms of cholelithiasis. Among the participants, 14.1% experienced port-site infections, which was identified as a commonly occurring complication. Additionally, the infra-umbilical site had been the most frequently affected location, with cases 26.7% exhibiting complications[20].

CONCLUSION

The present study concluded that the most common complication among the patients who underwent cholecystectomy was umbilical infection (53.84 %) followed by epigastric infection. Therefore, this can be minimized by proper aseptic techniques and post-op care of the patients.

Author's Contribution:

Concept & Design of Study:	Muhammad Mushtaq
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