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A Study of Port Site Complications after Laparoscopic Cholecystectomy at Tertiary Care Hospital in Western Rajasthan

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Abstract

Background: Port site complications though rare, shall be evaluated and studied so as to improve the quality of healthcare.

Materials and Methods: This prospective study was conducted in the Department of General Surgery, Sardar Patel Medical College & P.B.M. Hospital, Bikaner, Rajasthan. 100 patients of all age group and both sexes with symptomatic cholelithiasis undergoing laparoscopic cholecystectomy during 12 months period (Jan. 2017 – Dec. 2017) were analysed for any operative and post-operative complications at port sites with 3 months follow up from date of operation.

Result: Out of 100 patients studied only 1 patient presented with port site hernia in the follow up and 3 patients presented with port site infection.

Conclusion- Laparoscopic surgery is a safe and effective procedure with low complication rates.

Keywords: Port site compliaction; laparoscopic surgery; Port site hernia.

Introduction

Laparoscopic techniques have revolutionized the field of surgery. Benefits include decreased postoperative pain, quicker return to normal activity, and less postoperative complications. However, unique complications are associated with gaining access to the abdomen for laparoscopic surgery. Inadvertent bowel injury or major vascular injury are uncommon but potentially life-threatening complications, usually occurring during initial access[1]. The overall rate of major complications following a laparoscopic procedure is approximately 1.4 per 1,000 procedures. However the incidence of port site complications following laparoscopic surgery is considered to be around 21 per 100,000 cases and it has shown a proportional rise with the increase in size of the port site incision and trocar[2,].

A gallstone is a stone formed within the gallbladder out of bile components[1]. The term cholelithiasis may refer to the presence of stones in the gallbladder or to the diseases caused by gallstones[2].Gallstones are a major cause of morbidity and mortality throughout the world[3]. At least 10% adults have gallstones[4,5].Its prevalence has become more apparent since the introduction of ultrasound. The estimated prevalence of gallstone disease in India has been reported as 2% to 29%[6,7]. In India, this disease is seven times more common in the North (stone belt) than in South India[8].

The overall complications/injuries that occur following laparoscopic surgeries involve, gastrointestinal (0.6 per 1,000), genitourinary (0.3 per 1000), vascular (0.1 per 1,000), and omentum (0.4 per 1,000). However, the rarer

complications include pyoderma gangrenosum, metastasis at the port site following laparoscopic oncosurgery, and port site infections (PSIs).[9]

Material and Methods

This prospective study was conducted in the Department of General Surgery, Sardar Patel Medical College & P.B.M. Hospital, Bikaner, Rajasthan. 100 patients of all age group and both sexes with symptomatic cholelithiasis undergoing laparoscopic cholecystectomy during 12 months period (Jan. 2017 – Dec. 2017) were analysed for any operative and post-operative complications at port sites with 3 months follow up from date of operation. All cases were performed by experienced laparoscopic surgeons.

Observations

Table 1

Distribution of cases according to age group in relation to port site complications

Age group (years)	No. of Cases	Percentage	Port Site Complications	
			Infection	Incisional Hernia
0-20	0	0	0	0
21-40	49	49.0	2(4.08%)	0
41-60	45	45.0	1(2.22%)	0
>60	6	6.0	0	1(16.66%)
Total	100	100	3(3%)	1(1%)
Mean Age	42.00±12.56			

Table no: 1 shows maximum number of patients lies in age group of 21-40 years in study. Two patients in age group of 21-40 and one in age group of 41-60 developed port site infection. One patient in age group of >60 developed port site hernia. Mean age in study group was 42.00±12.56 years.

Table 2

Distribution of cases according to gender in relation to port site complications

Gender	No. of Cases	Percentage	Port Site Complications	
			Infection	Incisional Hernia
Female	82	82.0	2(2.43%)	1(1.22%)
Male	18	18.0	1(5.55%)	0
Total	100	100	3(3%)	1(1%)
χ^2			0.4926	0.2217
P			>0.05	>0.05

Table no: 2 shows that study had 82 female patients and 18 male patients. Out of 82 females, 2 developed port site infection and 1 female developed port site hernia. Out of 18 males 1 developed port site infection. On applying chi square test, the difference was found statistically insignificant ($p>0.05$) in both infection and incisional hernia.

Table 3

Distribution of cases according to residential area in relation to port site complications

Area	No. of Cases	Percentage	Port Site Complications	
			Infection	Incisional Hernia
Rural	31	31.0	1	1
Urban	69	69.0	2	0
Total	100	100	3	1
χ^2			0.0079	2.2483
P			>0.05	>0.05

Table no: 3 shows in this study, 31% patients were from rural areas and 69% patients were from urban areas. It showing that cholelithiasis is more prevalent in urban areas. Out of 31 rural patients 1 patient developed infection and 1 patient developed port site hernia. 2 patients from urban areas developed infection at port site. On applying chi square test, the difference was found

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statistically insignificant (p>0.05) in both infection and incisional hernia.

Table 4

Frequency of Presenting Complaints

Presenting complaints	No. of cases	Percentage
Fever	3	3.0
RH Pain	93	93.0
Dyspepsia	24	24.0
Nausea/Vomiting	47	47.0

Table no: 4 shows most common presenting complaint was Right Hypochondriac pain which was present in 93% patients. Nausea/Vomiting was present in 47% patients. 24% patients had Dyspepsia and Fever was present only in 3% patients.

Table 5

Incidence of Port Site complication

Complication	No. of patients	Percentage
Port Site Infection	3	3.0
Port Site Discharge	0	0
Port Site Hernia	1	1
Subcutaneous Emphysema	0	0
Port Site Bleeding	0	0
Wound Dehiscence	0	0
Port Site Sinus Formation	0	0

Table no: 5 shows that out of 100 patients studied only 1 patient presented with port site hernia in the follow up. Port site hernias usually occurred in larger ports (>10mm). In present study Hernia was found at umbilical port (10mm) and 3 patients presented with port site infection.

Discussion

Cholecystectomy is the treatment for cholelithiasis. Laparoscopic Cholecystectomy is the gold standard procedure for symptomatic cholelithiasis. We have done our study on 100 patients undergoing laparoscopic Cholecystectomy in Dept. of General Surgery at Sardar Patel Medical College and P.B.M. Hospital, Bikaner, Rajasthan. The purpose of our study was to assess the port site complications in patients who underwent laparoscopic cholecystectomy and duration of hospital stay &overall morbidity in patients due to the complications.

No surgery is without complications. It is true for Laparoscopic Cholecystectomy also that may present with complications. Complications may occur from the start of procedure i.e. port entry to intra-abdominal dissection and gall bladder extraction and to post- operative port site complications. Although port site complications can occur in Laparoscopic Cholecystectomy yet these are rare. The various port site complications which can be encountered are port site infection, port site hernia, port site discharge, port site bleeding, wound dehiscence, subcutaneous emphysema and sinus formation at port site.

In our study maximum number of patients undergoing LC were in age group of 21-40 years (49%). In Study by Dugg et al[10] maximum number of patients were in age group of 30-60 years. The mean age of patients in our study was 42.00±12.56, which is comparable to study done by Taj et al[11] in which the mean age of patients was 46.5+21.20 years.

In our study percentage of females and males were 82% and 18% respectively which is similar to study by Usman et al[12] and Dugg et al[10] which reported the percentage of females undergoingLC as 83% and 87.78% respectively.

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Present study showing 31% patients belonged to rural areas and 69% patients belonged to urban areas.

The overall complication rate in present study was 4% which is comparable to study conducted by Dugg et al[10]. They reported 3.33% complication rate in their study.

Various complications studied are:

Conclusion: Laparoscopic surgery is a safe and effective procedure with low complication rates.

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