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Incidence Of Persistent Symptoms After Laparoscopic Cholecystectomy.

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ABSTRACT

Laparoscopic cholecystectomy was introduced in 1987. Since then it has become the treatment of choice for gallstone disease. Laparoscopic cholecystectomy has more advantages compared to open surgery. The majority of patients recover uneventfully. But few patients complain of symptoms even after complete removal of gallbladder with calculi even years after the procedure. There is wide variation in number of patients with symptoms after surgery. The symptoms before and after the procedure was never analyzed. 10-20% of patients may develop post cholecystectomy syndrome weeks to months later. Post cholecystectomy syndrome refers to the persistence of gastro intestinal symptoms following cholecystectomy. The aim of this study is to assess the effect of laparoscopic cholecystectomy on various symptoms. This prospective study was conducted in the year between 2019-2020 at government royapettah hospital, Kilpauk Medical College, Chennai, Tamil Nadu, India. 150 patients were evaluated for laparoscopic cholecystectomy. All of them were planned to undergo laparoscopic cholecystectomy electively or underwent urgent surgery after admission to hospital for acute emergency relating to gallstones. USG was done in all patients to confirm the diagnosis of cholelithiasis. The patients were excluded from the study if they underwent open procedure or not able to fill the proforma. Cholecystectomy indications and investigations done for surgery were obtained. Pre-Post OP of Quality by Pearson's chi-squared test were $\chi^2=101.552$, $p=0.0005<0.01$ which shows highly statistical significant association between Pre and Post OP of Quality. The incidence of persistent pain after laparoscopic cholecystectomy was 13%. Abdominal bloating and psychiatric medications were predictive for persistence of pain after laparoscopic cholecystectomy.

Keywords: Abdominal Pain, Bile Duct Injury, Cholelithiasis, Laparoscopic, Cholecystectomy, Post Cholecystectomy Syndrome.

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INTRODUCTION

Gallstone disease is common all over the world. Most of the gallstones are asymptomatic. More than 750 gallbladder removal surgeries are performed each year in the US. The presence of gall bladder calculi differs among people of different age, ethnicity and gender [1]. It is a well-known fact that various mechanisms influence the gall bladder removal surgeries rates as there is a minimal correlation to prevalence [2]. The gall bladder surgeries differs depending on the institution, protocols regarding severity and the attitude of the surgeon. Many reports showed an increase in cholecystectomy due to introduction of minimally invasive techniques and has become a day care surgery in some places [3]. As a result, even small changes in indications for gall bladder removal surgeries have a major impact on the costs of health care. Cholecystectomy benefits most of the patients who are symptomatic [4]. The symptoms do not change in few patients so, it is essential to find these patients to avoid the so-called post-cholecystectomy syndrome [5]. The complications of gallstone disease include acute or chronic cholecystitis, Pancreatitis, obstruction of the common bile duct (CBD etc. Since, the advent of Laparoscopy, many have discussed the need for good surgical practice and technique for improvement of the outcome of the surgery. Comparison to open surgeries, using smaller incision, have also been highlighted [6].

MATERIALS AND METHODS

This prospective study was conducted in the year between 2019-2020 at government royapettah hospital, Kilpauk Medical College, Chennai, Tamil Nadu, India. 150 patients were evaluated for laparoscopic cholecystectomy. All of them were planned to undergo laparoscopic cholecystectomy electively or underwent urgent surgery after admission to hospital for acute emergency relating to gallstones. USG was done in all patients to confirm the diagnosis of cholelithiasis. The patients were excluded from the study if they underwent open procedure or not able to fill the proforma.

Inclusion Criteria

- All cases of elective laparoscopic cholecystectomy
- Patients above 18 years of age.
- Patients with co morbidities like DM, HT.
- Patients with previous history of surgeries like laparotomy.
- Cases with HPE report of gall bladder suggesting malignancy.

Exclusion criteria

- Open cholecystectomy

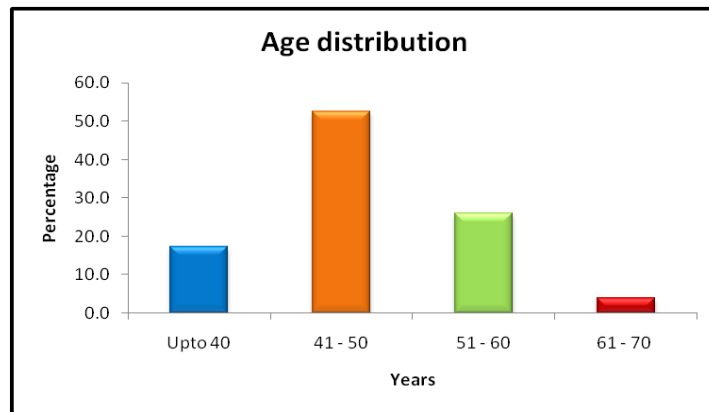
Statistical Analysis

The collected data were analysed with IBM.SPSS statistics software 23.0 Version. To describe about the data descriptive statistics frequency analysis, percentage analysis was used for categorical variables and the mean & S.D were used for continuous variables. To find the significance in categorical data Chi-Square test was used similarly if the expected cell frequency is less than 5 in 2x2 tables then the Fisher's Exact was used. In both the above statistical tools the probability value .05 is considered as significant level.

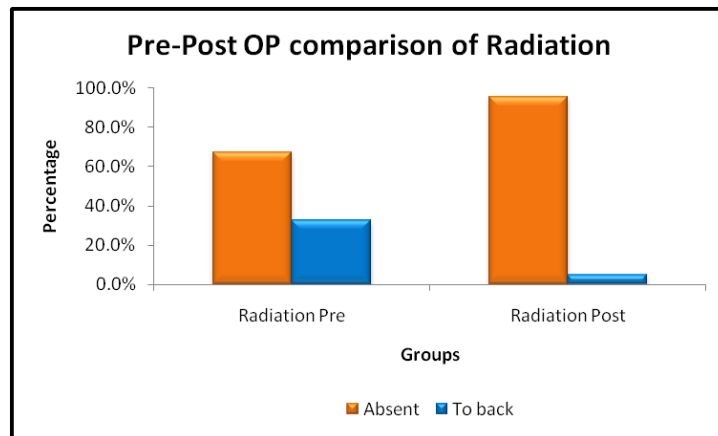
RESULTS

Graph 1: The above table shows Age distribution were 17.3% is Upto 40 years, 52.7% is 41-50 years, 26.0% is 51-60 years, 4.0% is 61-70 years.

Graph 1: Age distribution

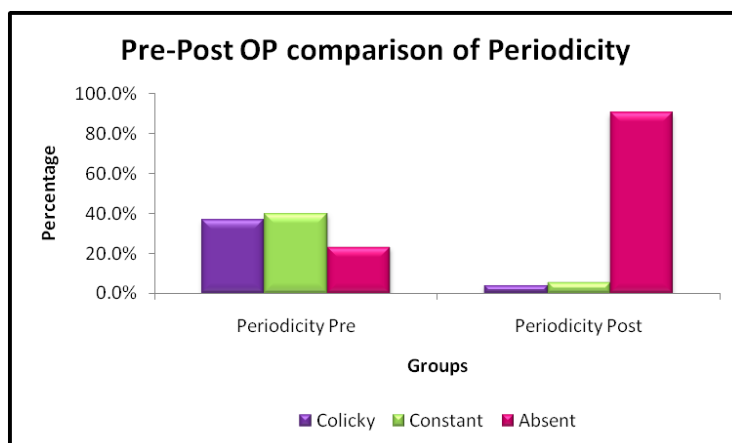


Graph 2: Comparison between Pre-Post OP of Radiation



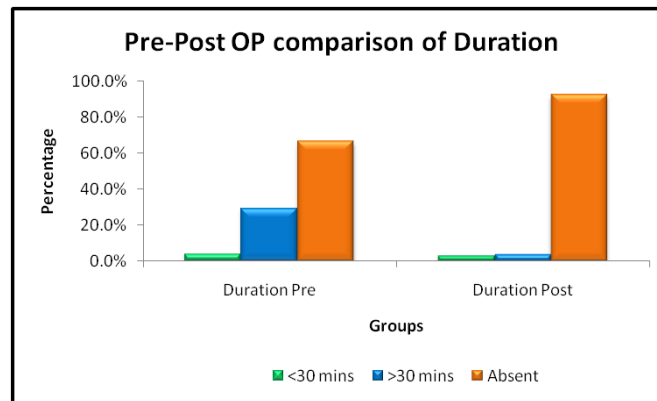
Graph 2: The above table shows comparison between Pre-Post OP of Radiation by Pearson’s chi-squared test were $\chi^2=15.135$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Radiation.

Graph 3: Comparison between Pre-Post OP of Periodicity



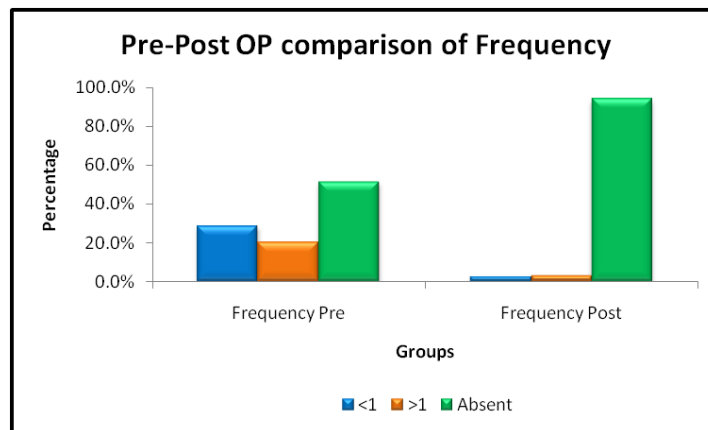
Graph 3: The above table shows comparison between Pre-Post OP of Periodicity by Pearson’s chi-squared test were $\chi^2=22.821$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Periodicity.

Graph 4: Comparison between Pre-Post OP of Duration



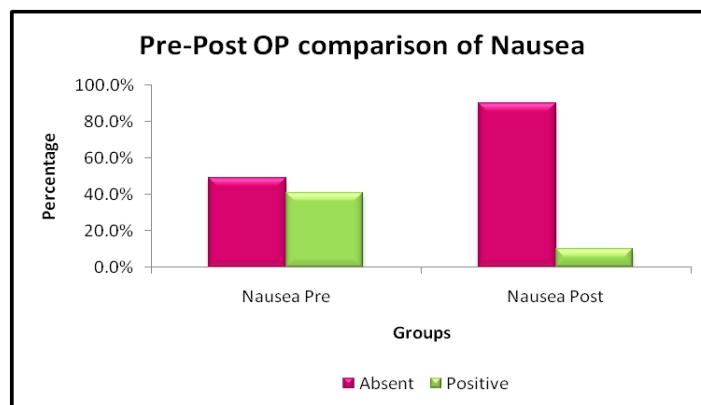
Graph 4: The above table shows comparison between Pre-Post OP of Duration by Pearson’s chi-squared test were $\chi^2=138.963$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Duration.

Graph 5: Comparison between Pre-Post OP of Frequency



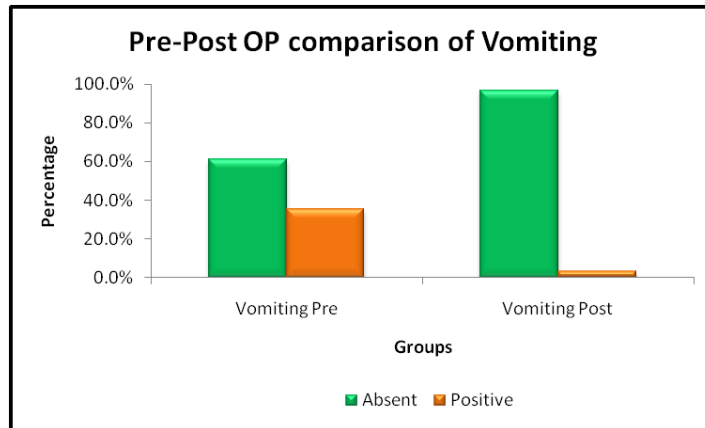
Graph 5: The above table shows comparison between Pre-Post OP of Frequency by Pearson’s chi-squared test were $\chi^2=30.661$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Frequency.

Graph 6: Comparison between Pre-Post OP of Nausea



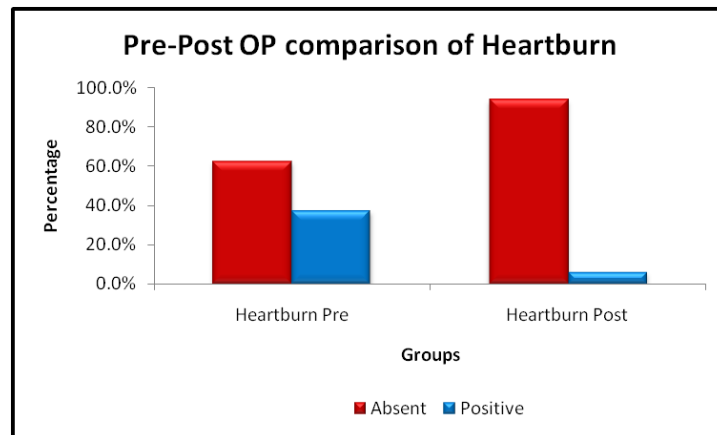
Graph 6: The above table shows comparison between Pre-Post OP of Nausea by Pearson’s chi-squared test were $\chi^2=16.228$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Nausea.

Graph 7: Comparison between Pre-Post OP of Vomiting



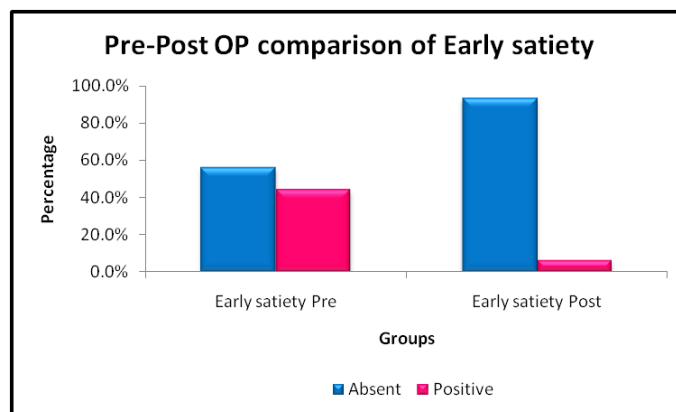
Graph 7: The above table shows comparison between Pre-Post OP of Vomiting by Pearson’s chi-squared test were $\chi^2=8.205$, $p=0.008<0.01$ which shows highly statistically significant association between Pre and Post OP of Vomiting.

Table 8: Comparison between Pre-Post OP of Heartburn



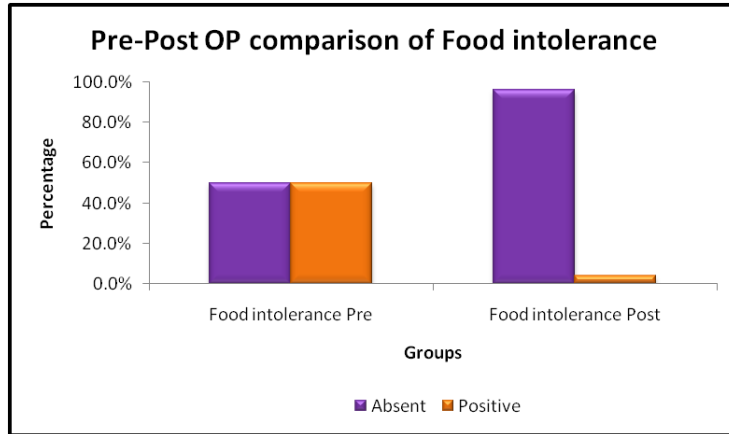
Graph 8: The above table shows comparison between Pre-Post OP of Heartburn by Pearson’s chi-squared test were $\chi^2=16.071$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Heartburn.

Graph 9: Comparison between Pre-Post OP of Early satiety



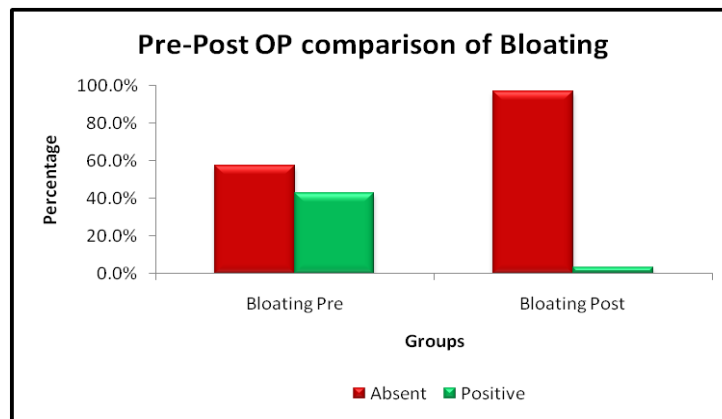
Graph 9: The above table shows comparison between Pre-Post OP of Early satiety by Pearson's chi-squared test were $\chi^2=13.636$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Early satiety.

Graph 10: Comparison between Pre-Post OP of Food intolerance



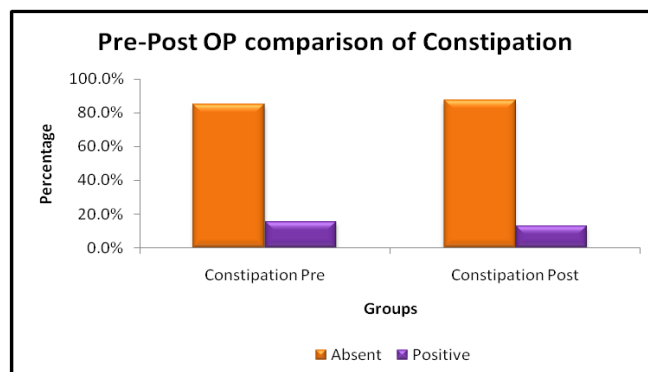
Graph 10: The above table shows comparison between Pre-Post OP of Food intolerance by Pearson's chi-squared test were $\chi^2=6.250$, $p=0.028<0.05$ which shows statistically significant association between Pre and Post OP of Food intolerance.

Graph 11: Comparison between Pre-Post OP of Bloating



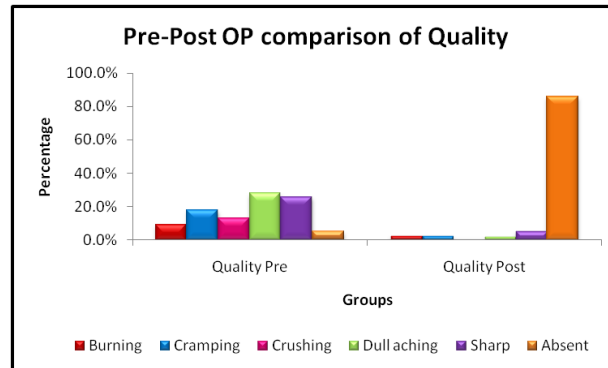
Graph 11: The above table shows comparison between Pre-Post OP of Bloating by Pearson's chi-squared test were $\chi^2=6.950$, $p=0.013<0.05$ which shows statistically significant association between Pre and Post OP of Bloating.

Graph 12: Comparison between Pre-Post OP of Constipation



Graph 12: The above table shows comparison between Pre-Post OP of Constipation by Pearson's chi-squared test were $\chi^2=120.129$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Constipation.

Graph 13: Comparison between Pre-Post OP of Quality



Graph 13: The above table shows comparison between Pre-Post OP of Quality by Pearson's chi-squared test were $\chi^2=101.552$, $p=0.0005<0.01$ which shows highly statistically significant association between Pre and Post OP of Quality.

DISCUSSION

It is quite obvious that cholelithiasis is a disease with female preponderance with ratio of woman to man equaling to almost 4 to 5 :1. This is also in accordance to study done by various researchers where the women were out numbering men in cases of cholelithiasis and persistence of symptoms after the operation. 2,8,9 84% of the patients in this study had successful laparoscopic cholecystectomy with complete relief of symptoms and no complains [7]. This is very similar to other studies where the authors have reported successful relief of symptoms after laparoscopic cholecystectomy in 70% to as much as 90% of cases [8]. Patients who presented with preoperative symptoms or modified original symptoms or other new symptoms after the surgery were 16% in our study. Studies have been done where incidence of symptoms after cholecystectomy have ranged from 15% of the patients to one third of the patients [9]. One common reason for incomplete relief after laparoscopic cholecystectomy is that the preoperative diagnosis of chronic cholecystitis was incorrect. This view has gathered support by many different studies conducted by eminent authors worldwide, but is also supported by findings of the present series, based on thorough investigation of 16 operated patients with persistent symptoms [10]. Some authors are of view that abdominal symptoms, subsequent to cholecystectomy for chronic cholecystitis and cholelithiasis, are usually related to an extra biliary cause such as hiatal hernia, peptic ulcer, or pancreatitis [11]. Other authors have gone to the extent of saying that the symptoms are most commonly due to disease of organs other than the biliary tract and only if these can be eliminated, one of the lesions of the biliary tract should be considered [12]. Abdominal pain, nausea and vomiting, indigestion were the predominant symptoms in the present study which were also seen as the common symptoms. Also it needs to be mentioned here that the ignorance or overlooking of these extra biliary disorders are the major reasons of post cholecystectomy syndrome [13]. Five cases in the present study (31.25%) were diagnosed as biliary tract disorders post cholecystectomy with two cases (12.5%) as residual stone in common bile duct and one case each of bile duct stricture, stenosis of sphincter of Oddi and long and dilated cystic duct remnant [14]. Much of the causes mentioned as biliary tract disorders above go unrecognized in early post operative period as the common bile duct is patent until stricture or stenosis develops which causes biliary colic resulting in abdominal pain, jaundice or even complicates as sepsis which leads to their diagnosis in late post operative period. Retained common bile duct calculi, bile duct stricture, stenosis of sphincter of oddi and cystic duct remnant are the main biliary aetiologies of persistent post cholecystectomy symptoms along with other aetiologies like chronic biloma or abscess, bile salt-induced diarrhoea or gastritis and dropped calculi as mentioned by other researchers [15]. Two of the patients in the present study were diagnosed as psychoneurosis as they were of the opinion that might be improper operation has been done and something more needs to be done to alleviate their symptoms but, in these patients, no organic cause was detected [16]. After several rounds of counselling and various investigations which were within normal limits, they were referred to psychiatrist for further treatment on suspicion of malingering [17]. Some patients may

have silent gall stones and some may have irritable bowel disease and there may be lot of patients in which the pre operative problem might have been bloating, reflux or regurgitation or they might have been using psychotropic drugs for these symptoms [18-20].

CONCLUSION

Laparoscopic cholecystectomy is a common operation and has emerged as the most standard operation for symptomatic gall stones throughout the world. A gall stone patient who presents with dyspepsia or common upper gastrointestinal symptoms has to be properly and promptly assessed as their presence may not be due to gall stones and they may present even after cholecystectomy. A proper counselling has to be done for patients with cholelithiasis by the surgeon and risk of surgery, complications and persistence of symptoms should be thoroughly explained

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