

Observational Study of Operative Outcome of Simple Ovarian Cyst in Laparoscopy vs. Laparotomy Method

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Abstract

Background: Ovarian cysts are quite common and involve all age groups, occurring in both symptomatic and non-symptomatic females. Ovarian cyst removal is surgery to remove one or more cysts from one or both ovaries. A laparoscopic surgery uses small incisions and specialized tools. It may offer faster recovery times than open surgery, which uses a larger abdominal incision.

Method: It is an observational study conducted in Obstetrics & Gynaecology department, C.U. Shah Medical College with retrospective data of 50 patients review of all cases of ovarian cysts diagnosed and managed between January 2022 and June 2022. All data collected from medical record charts, patients details, clinical presentations, ovarian cysts description, and pathology type were recorded, and management by laparoscopy or laparotomy was identified. Ethical approval was obtained from ethical hospital committee.

Result: There were 50 cases of ovarian cysts during the study period. including duration of surgery laproscopic vs. laparotomy group is (98.34 ± 12.83 minutes vs. 75 ± 08.43 minutes), intraoperative blood loss (51.27 ± 4.19 mL vs. 75.12 ± 2.19 mL), postoperative pain score (5.13 ± 0.43 points. vs. 7.45 ± 0.35 points), length of hospital stay (4.05 ± 0.2 days vs. 6.25 ± 0.8 days), and time to free activity (22 ± 3.02 hours vs. 32 ± 1.25 hours). The total complication incidence in the laproscopy group was 3.9%, compared with 16% in the laparotomy group. significant differences in direct medical costs were recorded between the two groups. No. of complications in laproscopy vs. laparotomy group are wound site infection(0 vs. 4), bowel injury(1 vs. 0), nausea and vomiting (6 vs. 11), peritonitis(1 vs. 3), surgical site heamatoma(1 vs. 2).

Conclusions: Traditional laparotomy in the treatment of simple ovarian cyst is usually associated with postoperative complications such as wound infection, nausea vomiting, surgical site heamatoma. The incidence of complications decreases sharply when laparoscopic surgery is employed. Patient compliance for Post-operation pain score, Length of hospital stay (days), Time to free activity are better in laparoscopic group than laparotomy group.

Keywords: Laparoscopy, Laprotomy, Compliance, Complication.

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Introduction

Ovarian cysts are common gynecological benign tumors, the prevalence of which has gradually increased in recent years. They are likely to affect female fertility functions and pose severe health risks on women. [1-2] The normal ovary by nature is a partially cystic structure. Most ovarian cysts develop as consequence of disordered ovulation in which the follicle fails to release the oocyte. The follicular cells continue to secrete fluid and expand the follicle, which over time can become cystic. Literature was searched to compare laparoscopic ovarian cystectomy versus open technique.

The indications for operative laparoscopy have increased, and all the operations previously performed by laparotomy can now be achieved using laparoscopy [3]. Compared with laparotomy, laparoscopy provides significant benefits for both patients. Total operative trauma is significantly reduced by laparoscopy, and patients have fewer major wounds and fewer adhesive complications, faster convalescence, and a faster return to social activities [4]. For all these reasons, laparoscopy is frequently preferred for the treatment of ovarian cysts, especially when the nature of the cysts is believed to be benign. Methods for improving the safety

and practicality of laparoscopy are, therefore, of significant interest.

Aim and Objectives

To assess the operative outcome of surgical removal of simple ovarian cyst.

Materials and Methods

it is an observational study conducted in Obstetrics & Gynaecology department, C.U. Shah Medical College with retrospective data of 50 patients review of all cases of ovarian cysts diagnosed and managed between January 2022 and June 2022. All data collected from medical record charts, patients details, clinical presentations, ovarian cysts description, and pathology type were recorded, and management by laparoscopy or laparotomy was identified. Ethical approval was obtained from ethical hospital committee. Inclusion criteria: patient diagnosed with simple ovarian cyst need surgical management in Obstetrics & Gynaecology department, C.U Shah Medical College. Only benign cases were selected in the study. Exclusion criteria: Patients with suspected or known malignant cysts are excluded.

Results

Table 1 patient profile

| Features | laparoscopy | laparotomy |
|--------------------------|-------------|------------|
| Numbers (n=50) | 23 | 27 |
| Age (years) | 19-26 | 24-40 |
| Size (cm) | <5 | >5 |
| Unmarried Patient | 14 | 3 |

In present study in table 1 shows total no of patients going for operative management is 50, patient's age going for laproscopical removal of cyst is between 19 to 26, while it is 24 to 40 in laparotomy group. Size of cyst is less than 5cm in laparoscopic

surgery while it is more than 5cm laparotomy group. Usually, unmarried patients desired for laparoscopic route, 14 unmarried women are in laproscopical management and in other group its 3 in number

Table 2 surgical and postoperative compliance 1

| | laparoscopy | laparotomy |
|---------------------------------------|--------------------|-------------------|
| Operation time (minutes) | 98.34 ± 12.83 | 75±08.43 |
| Intraoperative blood loss (mL) | 51.27 ± 4.19 | 72± 2.19 |
| Post-operation pain score | 5.13 ± 0.43 | 7.45 ± 0.35 |
| Length of hospital stay (days) | 4.05± 0.2 | 6.25 ± 0.8 |
| Time to free activity (days) | 22 ± 3.02 | 32±1.25 |

In table 2 laparoscopic group has operation time of 98.34±12.83 min. and in laparotomy group has 75±08.43. laparoscopic group has Intraoperative blood loss (mL) 51.27±4.19 and in laparotomy group has 72±2.19. In first group post-operation pain score 5.13 ± 0.43 and in second one it is 7.45 ± 0.35. length of hospital stays and time to free activity in days 4.05±0.2, 22 ± 3.02 and 6.25 ± 0.8, 32±1.25.

In table 3 complications observed in patient undergone laparoscopy which is wound site

infection is nil and in 4 patients with laparotomy surgery had infection wound site. in laparoscopic group 1 patient had bowel injury and in laparotomy it was nil, six patient complains of nausea and vomiting in laparoscopic group and in other group it was more that is 11, peritonitis was noted in one patient of laparoscopic route, and it was 11 in opposite group. Single patient was having wound site hematoma in laparoscopic surgery group and it was 2 in no. in laparotomy group.

Table 3 complications

| n=50 | Laparoscopy | Laparotomy |
|-----------------------------|--------------------|-------------------|
| Wound Site Infection | 0 | 4 |
| Bowel Injury | 1 | 0 |
| Nausea And Vomiting | 6 | 11 |
| Peritonitis | 1 | 3 |
| Wound Site Heamatoma | 1 | 2 |

Discussion

Benign ovarian masses are a common health problem for women, and laparoscopic surgery is the most preferred method for their treatment. Laparoscopy has significant advantages over laparotomy, such as improved cosmetic results, less postoperative pain, and faster recovery. Operative laparoscopy is widely recognized for the treatment of gynecological disorders. [5] Laparoscopy or laparotomy are choices for operative treatment of benign ovarian cysts. Minimal invasive methods have now replaced laparotomy in the surgical treatment of ovarian cysts. Operative laparoscopy has many potential advantages over laparotomy. [6] Pittaway et al. compared laparoscopic adnexal excision with conventional laparotomy and concluded

that the laparoscopic technique might offer significant benefits when performed by a laparoscopist experienced in advanced techniques. Tsolakidis et al. conducted by (n=482 women) showed that laparoscopic surgery resulted in fewer adverse surgical incidents (surgical injury or postoperative complications, including fever or infection), less postoperative pain, and shorter hospital stay when compared to laparotomy. [7] In our study, postoperative hospital stay was significantly shorter in the laparoscopy group. Consistent with our finding, Lehmann-Willenbrock et al. [8] reported that risk of postoperative surgical site infection was lower in the laparoscopy group. Obtaining access to peritoneal cavity in laparoscopic surgery is more difficult in patients with previous abdominopelvic surgery, since it can become a cumbersome, time consuming, and occasionally

hazardous procedure. [9] Laparoscopic surgery is widely accepted as the preferred method of treatment for many gynecological problems, including those seen in patients with previous history of surgery. The fact that due to intra-abdominal adhesions, these patients are mostly vulnerable to complications during laparoscopic surgery does not harm this preference. [10] It was observed that laparotomy was more frequently preferred for patients with a history of previous surgery and larger cyst sizes. Laparoscopy is less preferred in patients with a previous history of laparotomy.

Significant differences were reported in the operating time, estimated blood loss, duration of hospital stay, and recovery time. [11] Bateman et al. concluded that postoperative recovery time in the endoscopic operation of ovarian cysts caused by endometrioma was lower than that of laparotomy, while laparotomy provided faster recovery. [12]

operative laparoscopy includes allowing for the examination of the whole abdomen and less postoperative discomfort due to smaller incisions. Laparotomy is better choice in such cases as there is always learning curve in laparoscopy surgery. There is longer duration of over operative time in laparoscopic surgery as less experienced surgeon than laparotomy.

Conclusion:

Our study found that overall compliance like postoperative pain score, the length of hospital stay, early discharged from hospital was better in laparoscopy surgery than open surgical route. complications like wound site infection and haematoma, more chances of peritonitis, Nausea and vomiting are more in laparotomy as compared to laparoscopy. The number of incisional infections, the need for blood transfusion and the duration of surgery were shorter in patients who underwent laparoscopic procedures. Laparoscopic management of ovarian cysts using the Laparoscopic

System is safe and feasible in well-selected cases. However, in selected cases like past history of previous surgery, increase in cyst size, suspecting intra-abdominal adhesions open surgical method is preferred. Compared to laparotomy, laparoscopic surgery resulted fewer intraoperative and postoperative complications, shorter hospital stays, and less frequent adhesion development. Minimally invasive laparoscopy is the approach of choice in gynecologic surgery today. It brings many benefits, such as decreased pain and enhanced recovery. However, there is always a need to improve practices for laparoscopic surgery to shorten learning curve.

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