

ORIGINAL ARTICLE

The Review aim is to Evaluate the Clinical Results of Solitary Laparoscopy for Removing Large Ovarian Cysts (16 CM) to those of Laparotomy and Three-Port Laparoscopy

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ABSTRACT

Aim: Though standard laparoscopy has increasingly gained acceptance as the surgical therapy for ovarian cancer, decreasing laparoscopy sequence number remains a significant issue for bigger ovarian tumors. Thus, the goal of this review is to contrast the clinical results of solitary laparoscopy for eliminating large ovarian cysts (16 cm) to those of laparotomy and 3-port laparoscopy.

Methods: Our current research included 96 individuals with large ovarian cysts (>16 cm) which had single-port, 3-port, or else laparotomy. Patients' health records, perioperative surgical results, postoperatively score, and complications were all evaluated and discussed retrospectively. Our current research was conducted at Services Hospital Lahore from May 2020 to April 2021.

Results: 1-port laparoscopy produced improved perioperative results and less postoperative discomfort compared to 3-port laparoscopy and laparotomy. The duration during process and waking up in the morning was significantly shorter in 1-port laparoscopy than in laparotomy and three-port laparoscopy (18.548.17 vs 28.428.58 vs 23.558.77, P0.02). The hospital admission was substantially lower in single-port laparoscopy set than in extra two sets (5.070.6 vs 6.472.64 vs 5.820.84, P0.002). Furthermore, single-port laparoscopy resulted in lower postoperative discomfort notches than laparotomy and 3-port laparoscopy.

Conclusion: Single-port laparoscopy is indeed very secure and effective method for large ovarian cysts, only with benefits of the shorter surgery duration, less anticipated blood loss, a shorter hospital stays, a reduced spillage rate, and lesser postoperative discomfort.

Keywords: Clinical Results, Solitary Laparoscopy, Ovarian Cysts, Laparotomy, Three-Port Laparoscopy.

INTRODUCTION

As laparoscopic procedure has gained acceptance as the technique of alleviating cancer, decreasing quantity of ports were the trend in order to make operation less intrusive and provide better aesthetic results. Despite the fact that ovarian tumors or cysts can grow to be quite big, laparoscopy was shown to remain possible for ovarian cysts larger than 11 cm [1]. It has been noted that individuals with ovarian tumors larger than 10 cm had greater projected blood loss, the longer processing duration, and a longer hospital stay than those with tumors 11 cm. Three-port laparoscopy has demonstrated similar or slightly even better temporary and pathological results than 5-port laparoscopy. Nevertheless, decreasing sequence figure to single-port laparoscopy is very difficult and time-consuming process [2]. With the advancement of technology, single-port laparoscopy has indeed been effectively required to extract minor ovarian cysts/tumors, and its operation duration, anticipated blood loss, danger of infection, and postoperative discomfort are comparable to those of laparotomy. Despite the fact that the study discussed previously shows that single-port laparoscopy must remain performed to figure out how to eliminate ovarian malignancies, 1-port laparoscopy for big ovarian cysts can meet operative difficulties [3]. Given inadequate range of motion of instruments, many impacts might

happen when laparoscopic tools are introduced in conjunction through a hole drilled, potentially increasing division problems, operation duration, and cyst rupture. The residual little space meaningfully limits the connecting distant of surgical equipment, particularly only when ovarian cyst in the abdominal cavity remains quite big [4]. There are currently few journals evaluating the surgical results of 1-port laparoscopy, 3-port laparoscopy, or traditional laparotomy to reduce excess ovarian cysts, that are recognized as having a diameter more than 16 cm. Nevertheless, the goal of this review was to assess the perioperative outcomes and postoperative pain of patients with moderate to severe ovarian cysts who had 1-port laparoscopy, 3-port laparoscopy, or laparotomy. The purpose of the current study is to see if 1-port laparoscopy still outperforms 3-port laparoscopy and laparotomy in the excision of big ovarian cysts [5].

METHODOLOGY

The Recognized Study Review Panel of Services Hospital, Lahore Pakistan, authorized this retrospective comparison study. From May 2020 to April 2021, 99 individuals with large ovarian cysts (>16 cm) were identified and treated by means of 1-port laparoscopy, 3-port laparoscopy, or laparotomy. Individuals were divided into three groups based on the type of surgery they received: 34 examples of

single-port laparoscopy, 36 patients of laparotomy, and 28 instances of three-port laparotomy. To minimize leakage, the ovarian cyst was gently excised. This research included 96 individuals with large ovarian cysts (>16 cm) who had 1-port, 3-port, or laparotomy. Patients' health records, perioperative clinical results, postoperatively score, and complications were all evaluated and discussed retrospectively. Our current research was conducted at Services Hospital Lahore from May 2020 to April 2021. Medical specimens were submitted to pathology section, where frozen slices remained evaluated to determine whether they were benign or cancerous. The ovary was rebuilt and restored to the abdominal cavity after the ovarian cystectomy was finished. The multichannel single-port technique through the wound retractor and surgical glove was established through an umbilical puncture (Fig. 4). The appropriate trocar for laparoscopic tools was inserted on fingers 1, 3, and 5. The abdominal cavity remained closely reviewed for somewhat bleeding lesions, washed through the 6% warm glucose solution, and then sucked up irrigated fluid. After confirming that there is no bleeding, the peritoneum, umbilicus fascia, and skin was closed. Figure 5 depicts the cosmetic result of an umbilical cord scar following single-port laparoscopic surgery. The ovarian cyst remained excised in an equipment to single-port laparoscopic surgery after that the laparoscope and tools were placed. To avoid leakage and port-site metastases, ovarian cyst remained then put in the laparoscopic extraction bag. The peritoneum and fascia subsequently closed after the defatted ovarian cysts were removed. The person should be given general anesthetic for the laparotomy, that should be followed by 8–9 cm Pfannensteil incision and a comprehensive inspection of the abdomen's architecture.

RESULTS

This research included 96 individuals, 34 of whom had 1-port laparoscopy, 36 underwent laparotomy, and 29 underwent 3-port laparoscopy. The demographics and Tumour pathology of the individuals in the three categories were shown in Table 1. There have been no statistically significant variation categories in terms of age, BMI, ovarian cyst size, past of surgical treatment, CA-125 level, ASA organization, or ovarian cyst histology. Participants in the three categories had a median lifespan of 32.59, 38.37, and 34.46 years, respectively. The average BMI of five patient populations was 26.08 kg/m², 24.8 kg/m², and 24.7 kg/m², accordingly. The average size of an ovarian cyst in three groups was 18.37 cm, 19.12 cm, and 17.34 cm, respectively. There was no significant difference in CA-125 levels (41.87, 52.78, and 28.84, respectively) or ASA Classification between three categories (1.78, 1.92 and 1.75, respectively). The pathophysiology of ovarian cysts in single-port laparoscopy category comprised 9 serous cystadenoma (28%), 12 mucinous cystadenoma (34%), 9 ovarian teratoma (25%), 4 endometriotic cyst (8%), and 3 fibrothecoma (7 percent). Here remained 12 serous cystadenoma (35%), 16 mucinous cystadenoma (47%), 5 ovarian teratoma (12%), and 3 endometriotic cysts in the laparotomy category (9 percent). The anticipated blood loss during a 1-port and 3-port laparoscopy was 29.93 ml and 64.8 ml, individually. Hemoglobin increases were 19.59 and

27.94 g/dL in single-port and three-port laparoscopies, correspondingly. Seven patients (24.3 percent) in the multiple laparoscopy group suffered Tumour rupture without spillage, compared to one patient (4.1 percent) in single-port laparoscopy team and one individual (3.8 percent) in laparotomy cohort.

Table 1:

	1-port Laparoscopy	Laparotomy	3-port Laparoscopy
Immediately after operation	3.83±0.57	3.52±0.51	3.12±0.86
04 hrz post operation	3.07±0.38	2.70±0.85	3.37±0.65
08 hrz post operation	3.37±0.65	3.07±0.38	2.70±0.85
24 hrs post operation	1.81±0.48	1.94±0.61	2.63±0.65
48 hrs post operation	2.13±0.49	1.51±0.58	1.36±0.55

Table 2:

Features	1-port Laparoscopy	Laparotomy	3-port Laparoscopy	P-value
Age (year)	36.34±18.09	32.44±12.53	31.58±11.73	0.05
BMI (kg/m ²)	23.6±4.25	25.09±4.56	23.9±4.70	0.72
Previous abdominal surgery	0.29±0.47	0.15±0.36	0.26±0.56	0.48
Ovarian cyst diameter	16.33±2.09	17.36±4.07	18.11±4.11	0.07
CA-125	51.76±74.37	27.84±18.44	40.89±97.76	0.81
ASA Classification	1.74±0.47	1.79±0.42	1.91±0.45	0.27

Table 3:

Variants	1-port Laparoscopy	Laparotomy	3-port Laparoscopy
Operation time (min)	66.57±40.43	88.33±33.69	73.91±20.54*
Estimated blood loss (ml)	29.71±25.35	63.7±94.01	28.91±23.61*
Hemoglobin changes (g/dL)	15.80±8.65	26.93±10.45	18.58±12.83**
Cyst rupture during operation	6 (22.2%)	1 (3.0%)*	1 (2.9%)
Complications	5 (14.3%)	2 (7.4%)	2 (6.0%)
Fever	2 (7.4%)	1 (3.0%)	3 (8.6%)
Ileus	1 (2.9%)	0 (0.0%)	1 (2.9%)
Intra-abdominal bleeding	1 (2.09%)	2 (7.4%)	1 (3.0%)



Figure 1:



Figure 2:

DISCUSSION

Laparoscopy is now one of the highest achievements for eliminating ovarian malignancies, owing to its clear benefits in aesthetic, perioperative, and postoperatively results and problems. Surgeons have sought to minimize the number of ports and treat bigger ovarian tumors as surgical equipment and technology have advanced [6]. Though lowering the number of ports can result in superior aesthetic results, this is a difficult technology to implement [7]. Dropping sum of ports also implies that devices are packed near surgical site; sum of accessible tools throughout surgery is restricted; the longer operating time is necessary; and doctors' technical training would be somewhat lengthy. Another issue with minimally invasive surgery is tumor rupture and spillage, that might rise likelihood of cancer development [8]. The findings of our comparison research additional shown that 1-port laparoscopy is safe and viable for ovarian cysts bigger than 16 cm, by very quicker operation duration, less projected blood loss, lower hemoglobin alterations, and a reduced tumor spillage report. For bigger ovarian tumors, 1-port laparoscopic operation is particularly troubled with elevated risk of tumor burst and ovarian cyst fluid spilling, including aggressive tumor cell dissemination, relapse, pseudomyxoma peritonei, peritonitis, and gliomatosis peritonei [9]. It has been observed that degree of ovarian cancer rupture afterward laparoscopic surgery ranges between 3 and 26 percent, with some cases exceeding 63 percent. Many investigations, nevertheless, have found that intra-operative cancer rupture does not enhance risk of recurrence or the prognosis [10].

CONCLUSION

For enormous ovarian tumors greater than 16 cm, single-port laparoscopy can considerably minimize surgery duration, anticipated blood loss, and tumor leakage when compared to 3-port laparoscopy and laparotomy. Furthermore, single-port laparoscopy offers advantages of decreased postoperative discomfort and the length of hospital admission. This is critical that single-port laparoscopy does not raise overall hospital expenditures or complication rates of the patient. As a result, single-port laparoscopy is very secure and effective method for removing large ovarian cancers. Additional multicenter randomized control studies are needed to demonstrate the advantages and security of single-port laparoscopy.

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