Original Research Article

Surgical management of benign ovarian cysts at a tertiary care centre

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Abstract

Aim: To assess the feasibility and outcome of laparoscopic surgery for the management of benign ovarian cysts.

Methods: This clinical study was carried out in the Department of Obstetrics and Gynecology at Shri Krishna Medical College and Hospital Muzaffarpur, Bihar, India from December 2018 to nov 2019, after taking the approval of the protocol review committee and institutional ethics committee. After taking informed consent detailed history was taken from the patient or the relatives if the patient was not in good condition. Total 220 patients who were clinically diagnosed and operated on benign ovarian cysts were included in the study. **Results**: Out of 220 patients, most of the patients 65 (29.55%) had come to the hospital with chronic pelvic pain. 58(26.36%) of the patients were asymptomatic and 31(14.10%) had complaints of pelvic mass, 23 (10.45) with Acute pelvic pain. The most common type of cyst observed among the patients was endometrioma which was seen 119 (54.10%) of the cases. The second most common type of cysts were the dermoid cysts seen in 59(26.82%) of the cases. Others such as hemorrhagic cysts 11 (5.0%), Para ovarian1.36 % and simple cysts were seen 4.1% of the cases

Conclusions: With proper patient selection, the size of an ovarian cyst is not necessarily a contraindication for laparoscopic surgery.

Keywords: Laparoscopy, Large benign ovarian cysts

Introduction

Ovarian cysts form part of gynecological disorders in females all over the world. They may occur at any age. Functional and inflammatory enlargements of the ovary develop almost exclusively during the child bearing years. An ovarian tumour in adolescent and postmenopausal women is more often malignant than benign. The cysts may be asymptomatic or produce local discomfort, menstrual disturbances, infertility, or rarely cause acute symptoms due to complications like haemorrhage, rupture or torsion. They are the fourth most common reason for gynecologic admission in the India, and it has been estimated that approximately 10% of women in the India will undergo surgical procedure for a suspected ovarian neoplasm during their lifetime.[1]

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Laparoscopy is considered the gold standard approach to manage benign ovarian cysts. The benefits of laparoscopy include reduced postoperative analgesic requirement, earlier mobilization, reducing chances of deep venous thrombosis (DVT), cosmetic advantages, earlier discharge from the hospital, and return to normal activity. This is mainly due to the improved quality of life after surgery, less pain, and lower postoperative complications thereby leading to a shorter hospital stay. Moreover, it is more beneficial to a patient who is yet to complete her child bearing and thus, would like to preserve her ovaries. However, there are a few challenges associated with this type of surgery to the surgeons. In case of large ovarian cysts, which extend to the umbilicus are difficult to operate as there is a risk of cyst rupture as well as small working space [2,3] in case of malignancy also, problems can occur due to the spin risk of the cyst, making laparotomy a procedure of choice in such cases. The lower rate of complications with laparoscopy chiefly depends on the expertise of the attending surgeon. More complications are observed when the surgery is performed by trainees, most likely due to their

inexperience.[4] A major factor that will make the gynecologic surgeon decide to perform a laparotomy is the size of the ovarian mass.

Material and methods

This clinical study was carried out in the Department of Obstetrics and Gynecology at Shri
Krishna Medical College and Hospital Muzaffarpur, Bihar, India from December 2018 to Nov 2019, after taking the approval of the protocol review committee and institutional ethics committee. After taking informed consent detailed history was taken from the patient or the relatives if the patient was not in good condition. Total 220 patients who were clinically diagnosed and operated on benign ovarian cysts were included into the study.

Methodology

All the patients initially came to the gynecological department. Demographic details were taken from all of them along with the regular blood tests. During the gynecological examination, when the cystic mass was detected, transvaginal ultrasound was performed to assess the size and other characteristics of the mass and to exclude malignancy.

Inclusion criteria

The mass with a typical and distinct border, with no evidence of irregularities, thick septa or ascites were considered as benign and included into the study.

Exclusion criteria

All the patients with malignant cysts were excluded from the study. Serum CA levels were done for postmenopausal patients. In case of cysts less than 5cm were re-examined after 3 months.

The surgery was performed after a repeat scan to assess the position of the cyst. The day before the procedure, the patients had bowel preparation. Antibiotic prophylaxis with Inj. Amoxicillin (1000mg) + clavulanic acid (200 mg) IV after sensitivity test was given to all the patients. The surgery was performed under general anesthesia. Open laparoscopy was done for the patients who had undergone an earlier laparoscopy or had a large ovarian cyst so as to avoid complications and risk of cyst perforation with umbilical incision. A 10 mm trocar was inserted between the umbilicus and the xiphoid process. After the pneumoperitoneum was generated, the other two trocars were inserted. The pneumoperitoneum pressure was maintained at 10- 12mmHg. The cyst was exposed by incising the ovarian wall and excised. Care was taken to avoid the cyst rupture and spillage of the contents. The specimen was then extracted and bagged through the umbilical trocar.

The patients were advised to resume the normal diet after fully regaining consciousness and were discharged when there was no fever and their mobility was restored. A follow up was done for all the patients after 4-6 weeks.

Statistical analysis

The recorded data was compiled and entered in a spreadsheet computer program (Microsoft
Excel 2010) and then exported to the data editor page of SPSS version 19 (SPSS Inc., Chicago, Illinois, USA). Descriptive statistics included computation of percentages and means.

RESULTS

Table 1. Patients Symptoms

Patients' symptoms	N=220	%
Acute pelvic pain	23	10.45
Chronic pelvic pain	65	29.55
Pelvic mass	31	14.10
Asymptomatic	58	26.36
Menometrorrhagia	19	8.64
Infertility	4	1.18
Dyspareunia	13	5.90

Increased abdominal girth	7	3.18

Table 2.Type of cysts observed among the patients

Type of cysts	N=220	%
Endometrioma	119	54.10
Dermoid cysts	59	26.82
Hemorrhagic cysts	11	5.0
Para ovarian cysts	3	1.36
Simple cysts	9	4.10
Functional cysts	13	5.90
Mucinous cystadenoma	4	1.82
Others	2	0.90

Table 3.Type of laparoscopic surgery

Type of laparoscopic surgery	N=220	%
Cystectomy Laparoscopy	192	87.27
Sapling-oophorectomy Laparoscopy	12	5.46
Oophorectomy Laparoscopy	16	7.27

Table 4: Surgery statistics

Parameter	**Mean/number**
Complications (n)	4 (1.9%)
Operating time (mins)	120±60.0
Blood loss (ml)	55.6±43.6
Cyst diameter (cm)	6.8±2.7
Hospital stay (days)	1.4±0.9
Bilateral	13 (5.90%)

Prior surgery (n)	128 (58.18%)

Discussion

Laparoscopic surgery has more or less replaced laparotomy and is now considered to be the gold standard for the treatment of benign ovarian cysts. Some of the cases such as those due to malignancy and technical difficulties are still treated with laparotomy. It is a matter of record that laparoscopy for the removal of the ovarian cysts is not only safe but also results in less blood loss during surgery, lesser complications, shorter hospitalization and better quality of life.[5]

In most cases, benign cysts less than 10cm in size is operated on by laparoscopy [6-8] . Only few surgeons operate by this method on very large ovarian cysts, especially those that come above the umbilicus.[9-14]

In the present study, the most common symptom presented by the patients was chronic pelvic pain 65 (29.55%). Many of them were asymptomatic 58 (26.36%). The other common symptoms were presence of pelvic mass 31 (14.10%) and acute pelvic pain 23(10.45%). In another study by Sidhmalswamy et al., abdominal pain was observed in 70% of the cases and discomfort in 30%.[15] In a study by Vishwanath et al, one third of the patients alone had pain in the abdomen while around two thirds had only discomfort.[16] In yet another similar study, pelvic mass presence was the most common symptom (28.6%), while chronic pelvic pain was the second most common one seen in around 25% of the case.[4]

Among the types of cysts present among the patients presented with benign ovarian cysts at our hospital, the most common ones were endometrioma 119 (54.10%) and dermoid 59 (26.82%). Functional cysts (5.90%), paraovarian cysts (1.36%), simple cysts (4.10%) were not common.

This was corroborated by Lok et al. in a similar study, where also endometrioma and dermoid cysts were the predominant ones compared to the other types.[4]

Though presence of functional cysts is fairly common, since <50mm sized ones can get resolved after 3-4 cycles, usually there is no need for surgical management of this type of cysts.

In contrast, in a study by Guglielmina et al., the number of functional cysts and serous cystadenomas treated by them was more common than endometriomas and dermoid cysts.[17]

Serous cystadenomas were the most common type of cysts in yet another study by Vishwanath et al.[16]The most common lap surgery performed in this study was cystectomy 192 (87.27%), but in 16 (7.27%) cases, oophorectomy also was done. Salpingo-oophorectomy was performed in addition to the cystectomy in 12(5.46%) cases. This was corroborated by a study by Lok et al Sidhmalswamy et al.4,15 The complications in the present study was 1.3% due to laceration of the epigastric vessels. This was comparable to a study by Sidhmalswamy et al. and Vasque et al.[15,18] These lacerations occurred in present study, due to the insertion of the cannula at an oblique angle, especially, with a large number of pelvis adhesion masses, which obscured the vision. The bleeding was however soon cauterized and controlled

Conclusion

Laparoscopic surgery for the removal of benign ovarian cysts is in common practice and comparatively the preferred one. However, it is not without complications, which are mainly avoidable. So, more care must be taken during the procedure, especially during the incision of the cannula, which can lead to severe bleeding due to laceration of the epigastric vessels. Awareness of these risks will create more careful procedural precautions, further reducing the unwanted complications .

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