British Journal of Medicine & Medical Research
7(5): 405-409, 2015, Article no.BJMMR.2015.346
ISSN: 2231-0614

SCIENCEDOMAIN *international*
www.sciencedomain.org

Combined Laparoscopic Cholecystectomy (LC) and Laparoscopic Assisted Vaginal Hysterectomy (LAVH) is Feasible and Safe in Selected Cases

S. Dalmia[1*] and R. Dalmia[2]

[1]Department of General Surgery, SVS Medical Institute, Kolkata, India.
[2]Department of Gynaecological Surgery, SVS Medical Institute, Kolkata, India.

Authors' contributions

This work was carried out in collaboration between both authors. Author SD performed laparoscopic cholecystectomy designed the study, wrote the first draft of the manuscript and managed the literature searches. Author RD performed laparoscopic assisted vaginal hysterectomy, helped in literature searches, analyses of the study performed and helped in further preparing the manuscript. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/BJMMR/2015/16616
Editor(s):
(1) Andrea Tinelli, Lab. of Experimental Endoscopic Surgery, Imaging, Minimally Invasive Therapy & Technology, Department of Gynecology and Obstetric, Vito Fazzi Hospital, Lecce, Italy.
Reviewers:
(1) Joseph Lau Wan Yee, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong, China.
(2) Anonymous, Malaysia.
Complete Peer review History: http://www.sciencedomain.org/review-history.php?iid=945&id=12&aid=8279

Short Research Article

Received 9th February 2015
Accepted 17th February 2015
Published 26th February 2015

ABSTRACT

Aims: Laparoscopy has been practised for many years by both surgeons and gynaecologists and has made significant advances in last three decades. Laparoscopic Cholecystectomy (LC) has been the mainstay of treatment for gallstones for a long time. In recent years laparoscopy has been used more widely in gynaecology, where Laparoscopy Assisted Vaginal Hysterectomy (LAVH) has been performed with good results. The objective of this study was to evaluate the feasibility and outcome of performing both LC and LAVH in the same sitting.
Methods: Between May 2006 and May 2012, 42 women underwent LC and LAVH in the same sitting. Patients were jointly seen by surgeon and gynaecologist and selected following certain strict criteria. We retrospectively recorded postoperative complications, duration of operation and hospital stay. They were followed up in outpatient clinic at four and twelve weeks after discharge.
Results: Forty two women underwent both LC and LAVH in the same sitting. Mean duration of surgery was 160 minutes (range 140 - 245).Mean duration of hospitalisation was 64 hours (range

**Corresponding author: Email: dalmiasanjay@hotmail.com;*

48 – 124 hrs). The pain experienced in the postoperative period measured on the visual analogue scale ranged from 2 to 7 with a mean of 3.8. Two (4.7%) patients had umbilical port site infection.
Conclusion: Both LC and LAVH can be performed together safely with minimum pain and morbidity. Appropriate selection of patients, preoperative planning and good communication between the surgical and gynaecological team is the key for success.

Keywords: Laparoscopic cholecystectomy; laparoscopic assisted vaginal hysterectomy; combined; pain.

1. INTRODUCTION

LC is a proven and well accepted surgical procedure for gall stone disease. Laparoscopic Assisted Vaginal Hysterectomy (LAVH) has become more widely used compared to open abdominal hysterectomy in recent years. It increases operative time but is potentially more cost effective due to reduced hospital stay.

2. MATERIALS AND METHODS

We performed a retrospective analysis of forty two patients who underwent both LC and LAVH in the same sitting at SVS Medical Institute, India between May 2006 and May 2012. Mean age was 46.4 years (range 38-58). The average BMI was 28 (range 25-35).

Thirty out of the forty two patients suffered from irregular heavy periods and the remaining twelve complained of severe dysmenorrhoea. These patients had tried a number of conservative measures for heavy periods but with no success. Twelve patients had tried mirena coil but were having irregular spotting and did not want to continue with it. All patients had lower abdominal ultrasound scan to estimate the uterine size. Pipelle endometrial sampling was done to rule out malignancy in all cases.

All patients were suffering from nausea and right upper quadrant pain due to cholelithiasis. Upper abdomen ultrasound showed multiple gall stones in twenty two patients, solitary gallstone in sixteen patients and four patients had debris in the gall bladder. Two of the patients with multiple gallstones had common bile duct stones for which they had Endoscopic Retrograde Cholangio Pancreatography (ERCP) and duct clearance before planning for definitive surgery.

Patients were reviewed by both surgeon and gynaecologist jointly and it was confirmed that both LC and LAVH would be undertaken at the same time. Patients with co-morbid conditions and previous abdominal surgery were excluded. Patients were fully counselled and consented about both the procedures and were made aware of the possibility of conversion to open surgery by either surgical team.

2.1 Pre-operative Preparations

Preoperative investigations included Full Blood Count, urea and electrolytes, blood glucose test, liver function test, Electrocardiogram and chest X-Ray. Ten of the patients had haemoglobin below 8 gm % and all of them had two units of blood transfusion perioperatively. All patients were American Society for Anaesthetists (ASA) grade 1 and were pre operatively assessed by the anaesthetic team. Patients were admitted on the evening before operation, were fasted from midnight and were done first in the operating list.

2.2 Standard Surgical Technique

The procedure was performed under general anaesthesia with endotracheal intubation in all patients. Bladder was emptied initially with an in out catheter and Foley's catheter was introduced at the end of surgery. The patient was placed in supine position for LC and subsequently changed to Lithotomy - Trendelenburg position during LAVH with legs in Allen stirrups. Single dose of 1.2 gram of intravenous Co-amoxiclav was given to all patients on induction after excluding penicillin allergy. A 30 degree telescope with a three chip camera of a reputed brand was used in all cases. LC was performed first, followed by LAVH in all cases. Same umbilical port was used and other ports were created as necessary. Total number of ports was seven in all cases.

2.2.1 LC

Open method of pneumoperitoneum was used starting with a supraumbilical incision. Standard LC ports (10, 10, 5, and 5) were used in umbilical, epigastric, and two right upper quadrant ports. Mixture of blunt and sharp dissection was used to expose cystic artery and

duct in Calot's triangle. Both, artery and duct were clipped and divided. Gall bladder was dissected off the liver bed and taken out of epigastric port. A size 14 suction drain was placed in the hepato-renal pouch of Morrison in 12 patients. After this, operation was taken over by the gynaecology team.

2.2.2 LAVH

Four laparoscopic port sites (10, 5, 5 and 5), including the umbilicus were used. Three 5 mm ports were inserted in right iliac fossa, left iliac fossa and suprapubic area. A uterine manipulator was used to mobilise the uterus. Bilateral salpingo-oopherectomy was done in twenty eight patients where consent was taken. After identifying the ureters the round ligament was divided with harmonic scalpel. Where adnexectomy was required, the infundibulopelvic ligament was also coagulated and divided. The vesicouterine peritoneum was then opened with scissors to expose the posterior leaf of the cardinal ligament. Remainder of the surgery was completed vaginally and vaginal cuff closed by interrupted vicryl no.1 sutures.

2.3 Postoperative Management

Postoperatively patients were allowed clearfluids after six hrs. Patients were provided opiate analgesia for first 36 hours and were changed to codeine and paracetamol after that. All patients were discharged home on these analgesics. Normal diet was started attwenty four hours. Urinary catheter was removed after 24 hrs. Abdominal drains were removed, where inserted after they drained less than 30 ml. Patients were discharged at an average of 64 hours (range 48-124). They were asked to record their pain in the form of visual analogue scores between 1 to 10. Postoperative follow-up was at 4 and 12 weeks after the discharge.

3. RESULTS AND DISCUSSION

3.1 Results

All patients had cholecystectomy performed laparoscopically. Of the 42 patients who underwent LAVH, 28 (66.6%) had bilateral salpingo-oophorectomy and the 14 (33.3%) remaining patients had their ovaries conserved. In four cases LAVH was not possible and open total abdominal hysterectomy (TAH) was done. Out of these four patients, two had severe endometriosis and the other two were converted due to bleeding. Umbilical port site infection occurred in two (4.7%) cases which resolved with intravenous antibiotics. Ten of the 42 patients had cystocele repair at the same time. Patients recorded their pain on a visual analogue scale which ranged from 2 to 7 with a mean of 3.8.

3.2 Discussion

Laparoscopy is widely recognised as an indispensable tool in general and gynaecological surgery. In experienced hands, laparoscopic surgery is a safe and a beneficial procedure for the patient. It is beneficial in the form of reduced cost, shorter hospitalisation time and an extremely low rate of infection and ileus [1].

Chang reported one of the earliest cases of combined LC and LAVH in 1995.Operation time for this procedure was 135 minutes and hospital stay was four days [2]. A case of simultaneous LC and LAVH using six abdominal trocars has been published in 1996 [3]. Pelosi has reported a case of hand assisted LC during caesarean section [4]. Tsin has described performing LC via a laparoscope inserted through vagina during vaginal hysterectomy [5]. Wadhwa et al. [6] have published a series of 129 patients where they performed another surgical procedure combined with LC without significant addition in postoperative morbidity and hospital stay. They suggested that as long as the basic surgical principles and indications for combined procedures are adhered to, more patients with concomitant pathologies can enjoy the benefit of minimal access surgery. Korolija et al. [7] have reported that quality of life improves earlier after endoscopic than open surgery for a number of conditions including cholelithiasis and uterine disorders that require hysterectomy.

A series of 25 cases has been reported with non-laparoscopic combined Cholecystectomy, Hysterectomy and Appendicectomy with a mean hospital stay of nine days [8]. Another review of 11662 patients has found that LC and hysterectomy are associated with statistically significantly lower risks for nosocomial infections compared to open surgery. LC and hysterectomy each reduced the overall odds of acquiring nosocomial infections by more than 50% ($p<0.01$). This also resulted in fewer readmissions with these infections ($p<0.01$) [9]. A laparoendoscopic single-site (LESS) concomitant cholecystectomy and hysterectomy has been

described in a 37-year-old woman. This was performed in approximately three hours without any complications. Patient was discharged home 18 hours following the procedure [10]. Twenty one cholecystectomies for asymptomatic gall stones concomitant with open abdominal hysterectomy have been described. Mean surgical time for this combined procedure was 3.3 hours and mean blood loss was 474 ml. With improving anaesthetic technology and increasing surgical experience, these two procedures can be safely done at the same time [11].

Pluchino et al. [12] was the first to report combined cholecystectomy and total hysterectomy using the da Vinci Si single-port platform. They suggested that robotics may facilitate the widespread diffusion of single incision surgery, overcoming current laparoscopic limitations. Sheth described LC combined with hysterectomy and bilateral salpingo-oophorectomy via the vaginal route in three patients. He advocated judicious combining of these two major operations in a single operative session. According to him, this provides benefit to patients through the least invasive surgery [13]. In another review of seven patients where combined laparoscopic procedures were done, there were no intraoperative or postoperative complications. Patients were discharged home 24 hours after the operation. Two of these patients had LC with total laparoscopic hysterectomy and bilateral salpingo-oopherectomy. The author suggested that performing combined laparoscopic surgery for multiple pathologies offers the benefits of single anaesthesia, single hospitalisation and shorter hospital stay [14].

Combined laparoscopic procedures are safe and have been used in a number of different combinations producing successful outcome.

4. CONCLUSION

We conclude that combined Laparoscopic Cholecystectomy and Laparoscopic Assisted Vaginal Hysterectomy are feasible and safe in selected cases.

ETHICAL APPROVAL

It is not applicable.

ACKNOWLEDGEMENTS

We acknowledge the help of clinic and theatre staffs of SVS Institute, Kolkata for their help in organising joint outpatients consultations and help during theatre respectively. We also acknowledge co-operation of patients in this study while in hospital and during follow up.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Seus JD, Wood T. Reaping maximum benefits from minimally invasive surgery. J Healthc Mater Manage. 1994;12(8):20-4, 28.
2. Chang FH, Lee CL, Soong YK, Jan YY. Combined laparoscopic hysterectomy and cholecystectomy-a case report. Changgeng Yi Xue Za Zhi. 1995;18(1):64-7.
3. Olivari N, Luerti M, Torzilli G, Casanova G. Simultaneous laparoscopic cholecystectomy and laparoscopically assisted vaginal hysteroadnexectomy. Surg Laparosc Endosc. 1996;6(3):239-42.
4. Pelosi MA, Pelosi MA 3rd, Villalona E. Hand-assisted LC at caesarean section. J Am Assoc Gynecol Laparosc. 1999; 6(4):491-5.
5. Tsin DA, Sequeria RJ, Giannikas G. Culdo laparoscopic cholecystectomy during vaginal hysterectomy. JSLS. 2003; 7(2):171-2.
6. Wadhwa A, Chowbey PK, Sharma A, Khullar R, Soni V, Baijal M. Combined procedures in laparoscopic surgery. Surg Laparosc Endosc Percutan Tech. 2003; 13(6):382-6.
7. Korolija D, Sauerland S, Wood-Dauphinee, Abbou CC, Eypasch E, Garcia Caballero M, et al. Evaluation of quality of life after laparoscopic surgery: Evidence-based guidelines of the European Association for Endoscopic Surgery. Surg Endosc. 2004; 18(6):879-97.
8. Griffin S, Abbassi N, Parveen Z, Zafar A, Ali J. Combined abdominal hysterectomy, cholecystectomy and appendicectomy: a study of 25 cases in Abbottabad. J Ayub Med Coll Abbottabad. 2006;18(2):57-9.
9. Brill A, Ghosh K, Gunnarsson C, Rizzo J, Fullum T, Maxey C, et al. The effects of laparoscopic cholecystectomy, hysterectomy, and appendectomy on nosocomial infection risks. Surg Endosc. 2008;22(4):1112-8.

10. Hart S, Ross S, Rosemurgy A. laparoendoscopic single-site combined cholecystectomy and hysterectomy. J Minim Invasive Gynecol. 2010;17(6):798-801.
11. Murray J, Gilstrap L, Massey F. Cholecystectomy and abdominal hysterectomy. JAMA. 1980;244(20):2305-6.
12. Pluchino N, Buchs N, Drakopoulos P, Wenger J, Morel P, Dällenbach P. Robotic single-site combined cholecystectomy and hysterectomy: advantages and limits. Int J Surg Case Rep. 2014;5(12):1025-7.
13. Sheth S, Bhansali S, Goyal M, Modi A. Cholecystectomy and hysterectomy: a least invasive approach. Journal of Gynecologic Surgery. 1997;13(4):181-185.
14. Gummu O, Surgot O, Somavli O, Kaygusuzi O, Turhan N. Laparoscopic combined surgical procedures for multiple pathologies: our initial experiences. The New Journal of Medicine. 2010;27:43-46.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sciencedomain.org/review-history.php?iid=945&id=12&aid=8279