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Original Research Article

Role of laparoscopic techniques in the treatment of female genital pathology

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ABSTRACT

Background: Laparoscopy or endoscopically examining the peritoneal cavity was first attempted in 1901 by George Kelling who called this examining procedure celioscopy. Laparoscopy provides direct visual access to inner pelvic anatomy without a major abdominal surgery so that anatomy of uterus, ovaries, and fallopian tubes can be studied in more details and abnormalities can be treated at the same time.
Methods: This was a retrospective study which presents the results of laparoscopic treatment of various gynecological diseases in Cantonal hospital Travnik, Bosnia and Herzegovina in the period from 2003 to 2016. Total 295 cases were enrolled. All underwent laparoscopic surgery in general anesthesia. The results were statistically analyzed.
Results: The total number of patients is 295. The incidence is highest in the age 20-49 with a peak of 30-39 years (41.35%). Ovarian cysts are most common pathological condition in 43.60%, Infertility in 16.39% and Ectopic pregnancy in 12.13%. The most commonly treatment was cystectomy 40.06%, then chromopertubation with ovarian drilling 18:29% in infertility, and adnexectomy 10.72%.
Conclusions: Laparoscopy involves a minimal damage to body tissues. It is safer than open surgery. Laparoscopic treatment has contributed to faster treatment, faster recovery and reducing the cost of treatment, and thus raise the level of efficiency.

Keywords: Celioscopy, General anesthesia, Laparoscopy

INTRODUCTION

Laparoscopy or endoscopically examining the peritoneal cavity was first attempted in 1901 by George Kelling who called this examining procedure "Celioscopy". In the early 1930's, the first reports of laparoscopic interventions for nondiagnostic purposes were published. Initial procedures included lysis of abdominal adhesions and diagnostic biopsies of abdominal organs under direct visualization. Throughout the 1960's and 1970's, laparoscopy became a vital part of gynaecological practice. Despite these technological advances, it was not until after 1986, following the development of a video computer chip that allowed the magnification and projection of images onto television screens, that the techniques of laparoscopic surgery truly became integrated into the discipline of general surgery. The first laparoscopic cholecystectomy performed on a human patient was done in 1987 by the French physician Mouret. The rapid acceptance of the technique of laparoscopic surgery by the general population is unparalleled in surgical history. It has changed the field of general surgery more drastically and more rapidly than any other surgical milestone.[1] Laparoscopy provides

direct visual access to inner pelvic anatomy without a major abdominal surgery so that anatomy of uterus, ovaries, and fallopian tubes can be studied in more details and abnormalities can be treated at the same time.[2]

METHODS

In this retrospective study, we present the results of laparoscopic treatment of gynaecological diseases in Cantonal hospital Travnik, Bosnia and Herzegovina in the period from year 2003 to 2016. During this period, we treated 295 patients with different gynaecological diseases and conditions. All patients were hospitalized for the planned treatment; diagnosis is established after gynaecological and sonographic exam. Patients with morbid obesity, severe hypertension, coronary artery disease, acute bronchitis, chronic obstructive lung disease and patients with urinary tract infection were excluded from the study. After applying general anesthesia, the vulva, vagina, and perineum were cleaned with iodine solution in the lithotomy position, and a bladder catheter was applied. The site was covered with sterile cloths, a 3-4 mm vertical incision was made below the umbilicus, and a Verres needle was inserted into the abdomen. To determine whether the needle was in the abdomen via the serum physiological test, CO_2 gas was blown into the abdomen to achieve abdominal distension. After adequate distension was achieved, the vertical incision was enlarged to 1-2 cm, a 10 mm trocar was placed in the abdomen, and the patient was brought into a 20^0-25^0 Trendelenburg position. For better manipulation and visualization of the pelvic organs, a second and third trocar of 5 mm and 10 mm was inserted into the abdomen, and the pelvic mapping process and laparoscopic surgery was initiated.

RESULTS

Table 1: Demographic characteristics of women undergoing laparoscopic surgery.

Age in years	No. of Patients	Percentage
10-19 year	17	5.76
20-29 year	85	28.82
30-39 year	122	41.35
40-49 year	45	15.25
50-59 year	15	5.09
60-69 year	8	2.71
70-79 year	3	1.02
Total	295	100.0

The total number of patients treated by various gynaecological diseases is 295. Table 1 shows the demographic characteristics of patients undergoing laparoscopic surgery. The incidence is highest in the age 20-49 with a peak of 30- 39 years (41.35%)

Table 2: Laparoscopic findings of women undergoing laparoscopic surgery.

Characteristic findings	No. of patients	Percentage
Ovarian cyst	133	43.60
Infertility	50	16.39
Ectopic pregnancy	37	12.13
Endometrioma	32	10.49
Ovarian cystic tumor	20	6.55
Carcinosis peritonei	2	0.65
Polycystic ovary	2	0.65
Sterilization	6	1.97
Haematosalpinx	4	1.31
Hydrosalpinx	4	1.31
Sy PCO	2	0.65
Pelveoperitonitis	2	0.65
Ascites	2	0.65
Molla hydatidosa	1	0.32
Descensus uteri	1	0.32
Teratoma ovary	2	0.65
Uterine prolapse	2	0.65
Total	305	100.0

Table 3: Methods of laparoscopic surgical procedures done for the patients with various pathological conditions.

Surgical procedures	No. of patients	Percentage
Cystectomy	127	40.06
Chrompertubatio and drilling of the ovary	58	18.29
Adnexectomia	34	10.72
Salpingectomy due to ectopic pregnancy	23	7,25
Diagnostic laparoscopy	19	5.99
Conversion to laparotomy	13	4.10
Salpingectomy	11	3.47
Occlusion of the fallopian tubes (sterilization)	6	1.89
Oophorectomy	11	3.47
Incision of the fallopian tube and evacuation of ectopic pregnancy	6	1.89
LAVH	2	0.63
Incision of the fallopian tube	1	0.31
Resection of fibroids	4	1.26
Raising and fixing the uterus	1	0.31
Appendectomy	1	0.31
Total	317	100.0

Table 2 shows the incidence of gynaecological diseases treated laparoscopic surgical technique, Ovarian cyst are most common pathological condition in 43.60%, Infertility in 16.39% and Ectopic pregnancy in 12.13%. The difference in number of laparoscopic surgical interventions and the number of pathological conditions (295-305) is because some patients had two or more pathological conditions.

Table 3 shows the method of laparoscopic surgical procedures done in patients with various pathological conditions. The most commonly treatment was cystectomy 40.06%, then chromopertubation with ovarian drilling 18:29% in infertility, and adnexectomy 10.72%.

DISCUSSION

Laparoscopy is a minimally invasive surgical procedure. Operative laparoscopy offers several advantages to laparotomy, primarily because of better visualization, less tissue trauma, and much shorter recovery time. Laparoscopies were performed under General anesthesia. The whole abdominal cavity was inspected including under surface of diaphragm and liver. Further inspection was done for - Uterus, Fallopian tubes, Ovaries, Pouch of Douglas POD, Adhesion- type and site, Broad ligament, varicosity of vessel, Pelvic peritoneum. Abnormality found was recorded and treated accordingly laparoscopic cystectomy is the preferred approach to managing benign ovarian cysts in adolescents and adults. A retrospective study of 133 females aged 55 years or younger who underwent laparoscopic surgery concluded that the procedure is a safe first-line strategy for cysts in this age group. The intraoperative diagnosis of these cases was highly correlated with the final pathology.[3] In our study we have similar results. In our study we had 58 (18:29%) chrompertubatios with ovarian drilling with the aim of treating infertility. Fatum et al suggested that diagnostic laparoscopy should be omitted in patients with suspected unexplained infertility.[6]

Ectopic pregnancy is an increasingly common and potentially catastrophic condition. Misdiagnosis of ectopic pregnancy is quite common. Delayed diagnosis may endanger the life of the patient but also decreases later the likelihood of a future successful pregnancy.[7] In our study we 37 cases of ectopic pregnancy; 12.13% of all patients and made 23 salpingectomy (7.25%) and 6 incision of fallopian tube and evacuation of ectopic pregnancy (1.89%). In 8 cases we have had to do laparotomy due to hemorrhage shock.

CONCLUSION

Laparoscopy involves a minimal damage to body tissues. It is safer than open surgery. Although complications are rarer with laparoscopy but it can occur. In present study there was no mortality. Regarding complications of laparoscopy-In present study there was no major complication. Minor complications included wound infection, abdominal discomfort after laparoscopy4,5. The most common pathological condition was ovarian cysts.

With a careful preoperative screening, the laparoscopic surgery of ovarian cyst is an efficient and safe treatment for adolescents and young adults. The second most common procedure was chromopertubation and drilling ovary, which contributed greatly to the minimally invasive treatment of infertility. Other pathological conditions and surgical procedures were in smaller numbers but contribute to faster treatment, faster recovery and reducing the cost of treatment, and thus raise the level of efficiency.

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