

Comparison of Laparoscopy with Laparotomy for Management of Benign Ovarian Cysts

BENİNG ÖVER KİSTLERİNİN TAKİBİNDE LAPARASKOPI İLE LAPARATOMİNİN KARŞILAŞTIRILMASI

Cüneyt Eftal TANER, Yasin AVŞAR, Meral ABAN,
Nazmiye ŞENTÜRK, Arif GÜNGÖREN, Ali CEYLAN ERDEN

Dicle Üniversitesi Tıp Fakültesi Kadın Hastalıkları ve Doğum ABD, DİYARBAKIR

SUMMARY

Objective: Comparison of two groups of women who had benign ovarian cysts and managed by either operative laparoscopy or laparotomy.

Institution: Dicle University, Medical Faculty, Department of Obstetrics and Gynecology.

Materials and Methods: Clinical characteristics, duration of operation, postoperative morbidity and hospitalization period were compared in two groups of women who had benign ovarian cysts according to clinical signs and ultrasonographic criteria and who were managed by either operative laparoscopy or laparotomy.

Results: There were no significant difference between mean age, parity, diameter of ovarian cysts of the groups. There were also no significant difference between mean operative times (42.35 min versus 48.57 min) and postoperative morbidity of the groups. Postoperative hospitalization period was significantly less in laparoscopy group (1.23 days) than laparotomy group (3.19 days) ($p < 0.001$).

Conclusion: Management of benign ovarian cysts can be performed either by operative laparoscopy or laparotomy. Panoramic view of the abdomen, less postoperative discomfort due to small incisions and decreased postoperative hospital stay are the advantages of operative laparoscopy.

Key Words: Ovarian cyst, Operative laparoscopy

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The operative approach to the ovarian cysts has routinely been by laparotomy. This method also provide for early detection and resection of the ovarian cancers. But in reproductive years most of the ovarian cysts are benign and operative management of them can be performed either by laparoscopy or laparotomy

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Yazışma Adresi: Dr.Cüneyt Eftal TANER
Dicle Üniversitesi Tıp Fakültesi
Kadın Hastalıkları ve Doğum ABD,
DİYARBAKIR

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ÖZET

Amaç: Benign över kistlerinin tedavisi için operatif laparoskop ve laparotomi yapılan olguları karşılaştırmalı olarak incelemek.

Çalışmanın Yapıldığı Yer: Dicle Üniversitesi Tıp Fakültesi Kadın Hastalıkları ve Doğum Anabilim Dalı, Diyarbakır.

Materyel ve Metod: Klinik ve ultrasonografik kriterlere göre benign olduğu düşünülen över kistlerinin operatif tedavisi için laparoskop uygulanan 17 olgu ile laparotomi uygulanan 21 olgunun klinik özellikleri ile operasyon süreleri, postoperatif morbidite ve hastanede kalış süreleri karşılaştırıldı.

Bulgular: Laparoskop ve laparotomi uygulanan grupların ortalama yaş, parite ve över kist çapları arasında anlamlı bir farklılık yoktu. Grupların operasyon süreleri ve postoperatif morbiditeleri arasında da anlamlı bir farklılık (42.35'e karşın 48.57 dk) görülmedi. Postoperatif hastanede kalma süreleri laparoskop grubunda (1.23 gün) laparotomi grubundan (3.19 gün) anlamlı olarak daha kısaydı ($p < 0.001$).

Sonuç: Benign över kistlerinin operatif tedavisinde laparoskop veya laparotomi uygulanabilir. Tüm batının incelenmesi, küçük insizyonlara bağlı daha az postoperatif rahatsızlık ve anlamlı derecede azalmış hastanede kalış süreleri operatif laparoskopinin avantajlarıdır.

Anahtar Kelimeler: Over kisti, Operatif laparoskop

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(1-6). The patients' age, the clinical exam and ultrasound finding provide important information to determine the operative approach (6,7,8).

In this study, two groups of patients managed by laparoscopy or laparotomy for benign ovarian cysts, were compared.

MATERIAL AND METHODS

Thirtyeight women predicted to have benign ovarian cysts underwent randomly to operative laparoscopy or laparotomy for the management of the cysts were included in the study. Patients were evaluated by clinically and ultrasonographically. Cases appropriate according to ultra-

sonographic criteria for benign cysts are included to the study groups. Ultrasonographic criteria for ovarian cystectomy were as follows (Table 1) (9).

Any ovarian cyst that was multiloculated, had external papillary projections or appears malignant was not included to the study groups. Laparoscopy group consisted of 17 women who underwent to operative laparoscopy for ovarian cystectomy. Cases managed by cyst aspiration and fenestration were not included. Laparotomy group consisted of 21 women who underwent to laparotomy for ovarian cystectomy. Operations were performed under general anesthesia. In laparoscopy group we used a 10 mm diameter trocar for telescope (Karl Storz GmbH Co Germany) and additionally two or three 5 mm trocars inserted in the suprapubic area and in the iliac fossae. After laparoscopic ovarian cystectomy none of the cyst capsules sutured. In laparotomy group phannenstiel incision was performed. Ovarian cystectomy and traditionally suturing of the capsules were the preferred techniques in these cases.

Mean age of the laparoscopy was 24.52 ± 6.75 years with a range of 17 to 40. In laparotomy group mean age was 26.19 ± 5.34 years with a range of 19 to 40. Mean parity of the cases in laparoscopy and laparotomy groups were 1.41 ± 2.37 and 1.71 ± 2.32 respectively. The size of the cysts on ultrasonography ranged from 3.5 to 7 cm with a mean of 6.22 ± 0.86 in laparoscopy group. In laparotomy group mean diameter of the cysts was 7.0 ± 2.08 with a range of 4 to 10 cm.

Mean operative time, histologic findings, complications and postoperative morbidity were all recorded and the data were compared with the student's t test.

RESULTS

Clinical characteristics of the patients and histologic findings of the ovarian cysts in both groups were shown in Table 2 and Table 3. There was no malignant or borderline cyst in any of the groups. Serous cysts and endometriomas were the most frequent histologic findings in laparoscopy group and serous cysts and cystic teratomas frequently encountered in laparotomy group. There was no significant difference between the mean age and parity of the groups. Mean diameter of the ovarian cysts in the laparoscopy group was 6.22 ± 0.86 cm with a range of 3.5 to 8 cm. In laparotomy group the size of the cysts ranged from 4 to 10 cm with a mean of 7.9 ± 2.08 cm. Mean diameter of the cysts was less in laparoscopy group but this difference was not significant. Mean operative time was decreased in laparoscopy group but was not significantly different than the laparotomy group. In laparoscopy group hospitalization period was significantly shorter ($p < 0.001$) than the laparotomy group. We had no intraoperative surgical complication, and no blood transfusions were necessitated. In laparoscopy group one patient had postoperative febrile morbidity, and in laparotomy group 2 cases had febrile morbidity and in

Table 1. Ultrasonographic criteria for benign cysts

Table 1. Benign kistlerin ultrasonografik kriterleri

- less than 10 cm size
- distinct borders
- no irregular solid parts or thick septa
- no evidence of ascites or matted bowel

Table 2. Histologic findings of the groups

Table 2. Grupların histolojik bulguları

| Histologic findings | Laparoscopy group n=17 | Laparotomy group n=21 |
|---------------------|---------------------------|--------------------------|
| Follicular cysts | 3 | |
| Luteal cysts | 2 | 5 |
| Serous cysts | 5 | 7 |
| Endometriomas | 5 | 3 |
| Cystic teratomas | 2 | 6 |
| Mucinous cysts | — | — |

Table 3. Clinical characteristics of the groups

Table 3. Grupların klinik karakteristikleri

| Means | Laparoscopy group n=17 | Laparotomy group n=21 | p |
|-------------------------------|---------------------------|--------------------------|--------|
| Age | 24.52 ± 6.75 | 26.19 ± 5.34 | >0.05 |
| Parity | 1.41 ± 2.37 | 1.71 ± 2.32 | >0.05 |
| Cyst diameter (cm) | 6.22 ± 0.86 | 7.00 ± 2.08 | >0.05 |
| Operative time (min) | 42.35 ± 11.87 | 48.57 ± 12.46 | >0.05 |
| Hospitalization period (days) | 1.23 ± 0.56 | 3.19 ± 0.60 | <0.001 |

another case there was urinary tract infection. There was no significantly different postoperative morbidity between two groups.

DISCUSSION

In reproductive years most of the ovarian cysts are benign (9) and it is possible to distinguish benign cysts from malignant masses by using some specific ultrasonographic criteria (10,11). Any of the cyst that was multiloculated, had external papillary projections, thick septa, ascites or appeared malignant should not be operated by laparoscopy. With the use of ultrasonographic criteria Herrman (12) reported that they accurately predicted benign masses in 177 of 185 (96%) patients studied. Similar results were reported in other studies (7,8,13). For prediction of malignant cysts a CA-125 value may be determined in postmenopausal patients (10,13,14,15).

In our study mean duration of operation was shorter in laparoscopy group but it was not significantly different than the laparotomy group. In laparoscopy group after cystectomies we left the ovaries to heal without suturing since some authors reported that no suture was required because of spontaneous healing with less adhesion formation (16,17). Longer operative time in laparotomy group might be due to suturing of the cyst capsules and time consuming closure of the abdominal wall in obese women. In a similar study (13) operative time ranged from 20 to 180 minutes with a mean of 73 minutes in a group of 25 postmenopausal women managed by operative laparoscopy for selected cystic adnexial masses. The sizes of the cysts on ultrasonography ranged from 3 to 9 cm with a mean of 5 cm and the mean postoperative stay was 12 hours for the same group. This study reported a longer mean operative time because of surgery complications and dense adhesions. Similarly Bateman reported a longer operating time (2.8 ± 1.2 hours) in women with advanced endometriosis and who were managed by endoscopic surgery (18). In our study we had no intraoperative complication and we did not encounter very dense pelvic adhesions in any of the groups. There was no significant difference of postoperative morbidity between the two groups.

Women managed by operative laparoscopy had some advantages over women in laparotomy group. In laparoscopy group a panoramic view of the abdominal cavity was possible. Abdominal incisions were small, the patients had less postoperative discomfort. They had significantly less hospitalization period and expected a short time for returning to their normal life (4,10,13,18,19).

We can conclude that benign ovarian cysts can be managed by operative laparoscopy or laparotomy safely and effectively but operative laparoscopy offers advantages of laparoscopy over laparotomy.

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