

## Ovarian Cysts in Post Hysterectomy Cases – An Overview

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### Abstract

**Objective:** To evaluate ovarian cysts detected in patients who had undergone previous hysterectomy and to study the clinical, pathological and surgical characteristics in these patients. **Material and Methods:** An observational study was conducted in the department of Obstetrics and Gynaecology, Mamata Medical College, Khammam over a period of 3 years on patients who had undergone previous hysterectomy. A detailed history, clinical presentation was taken from patients who had ovarian cysts was included in the study. The previous records, characteristics of ovarian cysts and management were evaluated in these patients. **Results:** A total of 700 post hysterectomy patients presented to OPD of them 66 patients identified with ovarian cysts were included in the study. Most of them (68%) underwent hysterectomy at the age of 40-50 years; abdominal hysterectomy was common mode of surgery (82%). AUB-L was the major indication for hysterectomy (44%), in 65% cases both the ovaries were preserved, pain abdomen was the commonest symptom patient had presented with (47%). The cysts were analysed with ultrasound and CA-125 levels and managed surgically in 44%, followed in 47% and 9% of them were referred to oncology. Histopathologically epithelial tumors were most common. **Conclusion:** All the post hysterectomy ovarian cysts should be managed individually based on symptoms, signs and size. Clinical evaluation and necessary investigations are to be done for better management either follow up or surgery. Not all post hysterectomy ovarian cysts need surgery.

**Keywords:** ovarian cysts, hysterectomy, management.

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## INTRODUCTION

Hysterectomy is the most common surgery performed. It is often viewed by women as a cure and the final management option for many gynaecological complaints [1]. Apart from gynaecological malignancies various benign diseases may necessitate hysterectomy such as DUB, fibroids, endometriosis, PID, prolapse and massive obstetric haemorrhage [2].

There is debate about hysterectomy for benign conditions regarding the performance of concurrent prophylactic adnexal surgeries, oophorectomy or salpingectomy. The major benefits of prophylactic salpingo-oophorectomy are the prevention of subsequent ovarian and breast cancer and the reduction in the risk of future adnexal surgery [15]. However, oophorectomy is associated with a number of potential risks in the long term related with earlier surgical menopause in premenopausal women who face risks of cardiovascular disease, osteoporosis and hip fractures,

neurologic and psychiatric disorders, and colorectal and lung cancers [15]. The benefits must be weighed against these potential adverse effects during preoperative patient counselling and decision making.

Most ovarian cysts are asymptomatic and disappear spontaneously. When ovarian cysts are large, they may cause abdominal discomfort. If pressing on the bladder it may also cause frequency of urination. The signs and symptoms of ovarian cysts may include: pelvic pain, GIT and dyspareunia other symptoms are nausea, vomiting, or breast tenderness, fullness and heaviness in the abdomen and frequency and difficulty emptying of the bladder [4]. Patients with clear, simple ovarian cysts diagnosed by ultrasound might not require any treatment. However, monitoring using serial ultrasonography was carried out in women with simple ovarian cysts smaller than 5 cm and normal CA 125 [5, 6]. Ovarian cancer, as the third most important genital cancer and fifth cause of cancer-related death in women, is diagnosed at terminal stages in 70% of cases.

Therefore, it is imperative to identify the possible risk factors of ovarian masses [7].

The incidence of subsequent surgery after hysterectomy varies from 2.8-9.2% [8]. The aim of this study is to review cases of ovarian cysts treated at Mamata general hospital and to analyse the characteristics of the ovarian cysts and mode of management.

## PATIENTS AND METHODS

This is an observational study carried out in the department of Obstetrics and Gynaecology of Mamata Medical College, Khammam between April 2018 – March 2021 over a period of 3 years.

In this study period about 700 patients presented in the outpatient department with various complaints following hysterectomy in the past for a benign condition. After a detailed history, clinical examination, screening tests and ultrasound, 66 patients were identified having ovarian cysts and were included in the study with ethical clearance for further management after taking their verbal consent.

In asymptomatic cases follow up was done for 3-6 months. Symptomatic patients with cysts > 5 cm further evaluation with doppler studies and CA-125 was done, benign cases were surgically intervened and suspected cases were referred to oncology centre for better management.

## RESULTS

In this study of 66 patients, age range was between 30-65 years with mean age being 42.3 years. Among these 12 (18%) women underwent hysterectomy at an age less than 40 years, 45 (68%) women underwent hysterectomy between 40-50 years and 9 (14%) women underwent hysterectomy above 50 years.

The common mode of hysterectomy in the study group was abdominal hysterectomy in 54 (82%)

women and 12 (18%) women underwent vaginal hysterectomy.

In this study AUB-L was most common indication of hysterectomy in 44% women, followed by DUB and PID in 12% each, prolapse in 11%, AUB-A in 9%, PPH and endometriosis in 3% each and remaining 6% of women had no records of surgery.

On reviewing the operating notes, it was confirmed that 43 (65%) women had conservation of both ovaries at surgery. In 19 (29%) women one ovary was conserved while in 4 (6%) ovarian status could not be ascertained unavailability of previous records.

Clinical symptoms of 66 patients included the study is shown in table 2. Patients presented with pain abdomen (47%) and mass per abdomen (23%) as most common symptoms followed by others while 19.5% were asymptomatic.

According to ultrasonography, the features of the ovarian cysts were categorized under size and nature of cysts. Since CA-125 is most widely accepted tumor marker in ovarian cancers, it was done in all cases included in the study and the levels are as shown in table 3.

Table -4 shows among the 66 patients included in the study in 31 (47%) patients who were with less symptoms and a smaller cyst size less than 5 cms and normal CA-125 levels, expectant management or follow up was done for 3 - 6 months. Patients with raised CA-125 levels irrespective of size of the cysts were surgically managed (29, 44%). 6 patients were referred to oncology unit for having very high CA-125 levels >200 U/ml with high suspicion of malignancy. Laparotomy was done in 21 (72%) patients and laparoscopic surgery was done in 8 (28%). About 5 patients had bowel adhesions and of them few had bowel injury intraoperatively. Bladder injury was seen in 1 patient and ureteric injury in 1 patient but were managed immediately without any adverse outcomes. Histopathological reports of the surgically intervened patients are as shown in Table-5.

**Table-1: Ovarian status of hysterectomy (n =66)**

Ovarian status	No of patients	Percentage
Both ovaries preserved	43	65%
One ovary preserved	19	29%
Unknown (no records)	4	6%

**Table-2: Symptoms of patients (n = 66)**

Symptoms	No of patients	Percentage
Pain abdomen	31	47%
Mass abdomen	15	23%
Pelvic heaviness	4	6%
GIT symptoms	2	3%
Urinary symptoms	1	1.5%
Asymptomatic	13	19.5%

**Table -3: Ultrasound features of ovarian cysts, CA – 125 level (n= 66)**

	Number of patients	Percentage
<b>Size of cyst</b>		
<5 cm	35	53%
>5 cm	31	47%
<b>CA-125 levels</b>	<b>No. of patients</b>	<b>Percentage</b>
<35	36	55%
35-200	24	36%
>200	6	9%

**Table-4: Management approach of ovarian cysts (n=66)**

Management	No of patients	Percentage
Surgical	29	44%
Follow up	31	47%
Referred to Oncology	6	9%
	<b>n = 29</b>	<b>Percentage</b>
<b>Type of procedure</b>		
Laparotomy	21	72%
Laparoscopy	8	28%
<b>Operative complications</b>		
Blood transfusion	1	4%
Bowel adhesions and injury	5	17%
Urinary tract injury	2	7%
No complications	21	72%

**Table-5: Histopathology reports (n= 29)**

Histopathology	n = 29	Percentage
Simple follicular cysts	8	27.5%
Mucinous cystadenoma	9	31%
Papillary serous cystadenocarcinoma	1	3.5%
Serous cystadenoma	9	31%
Dermoid cyst	1	3.5%
Endometrioma	1	3.5%

## DISCUSSION

Hysterectomy is one of the most commonly performed surgical procedures among women and is considered as an end to all gynecological problems. A total number of 700 of post hysterectomy patients attended OPD department during 3 years of study period. In these, 105 patients presented with adnexal masses and out of those 66 (9.42%) patients had ovarian cysts and were considered for the present study. Our study shows more than half of the adnexal pathologies (62.8%) after hysterectomy detected were ovarian cysts which is similar to Shiber *et al.*, in which 64.8% of the post hysterectomy adnexal masses were of ovarian origin [1].

In a recent study of Casiano *et al.*, [16] the incidence of oophorectomy after hysterectomy was found as 9.2% [16]. They postulated that disruption of ovarian blood flow after hysterectomy might alter ovarian function, which could lead to adnexal pathologies.

Mean age of presentation of symptoms is 49.5 years, mean age of hysterectomy was 44.5 years which is almost similar to study done by Öksüzöğlü *et al.*, [19]

(46.4 years and 42.4 years respectively). Abdominal hysterectomy is still the commonest approach even if pre-requisites for vaginal approach are fulfilled. Previous records of the patients in our study showed that 82% cases underwent abdominal hysterectomy and vaginal hysterectomy was done in only 18% of cases. Our study is comparable to Naz F *et al.*, [2] (79% Vs 21%), Bhatnagar *et al.*, [14] (76% Vs 24%). Laparoscopy assisted hysterectomy was not observed in our study as most of the patients were from remote areas where abdominal route was preferable method of hysterectomy. Most common indication for hysterectomy was fibroid uterus (44%) in our study which was comparable to other studies like Aurapin J *et al.*, (55%), Deeksha *et al.*, (40%).

Commonest symptom of presentation was vague abdominal pain in 31 cases (47%), patients with larger cysts often presented with mass abdomen and pelvic heaviness in 15 (23%) & 4 (6%) cases respectively, severe abdominal pain with gastrointestinal symptoms was seen in cases with torsion of ovarian cysts (2 cases) and 13 patients were asymptomatic similar to study done by naz F *et al.*, where commonest symptom of presentation was pain

abdomen (35%) followed by abdominal mass (21%) and distention (9%).

A cancer antigen 125 (CA-125) test may assist in the evaluation of an adnexal mass but since CA 125 levels are elevated in conditions other than ovarian cancer therefore this level alone is not recommended for differentiating between benign and malignant adnexal mass. Ultrasonography (either abdominal or vaginal), Doppler is important in diagnosis, monitoring and determining malignant potential and is cost-effective<sup>6</sup>. Large mass size, complexity, projections, septation, irregularity or bilaterality may indicate cancer. In this study, 29 (44%) cases were re-operated, all cases were symptomatic and had higher level CA-125 levels (more than 35 IU). Cases with very high levels of CA 125 levels (more than 200 IU ) with abnormal doppler with high suspicion of malignancy 6 (9%) were sent to oncology centre and were followed up.

In our study ultrasound findings showed 32 (49%) women had simple cyst, 26 (39%) complex cysts and 8 (12%) with hemorrhagic cysts which is comparable to Naz F *et al.*, [2] study 55.8% had simple cysts and 18.6% had complex ovarian cysts.

Ovarian cysts with size less than 5 cm (35 cases, 53%) were managed conservatively mostly, 4 out of these were symptomatic and laproscopically operated. All ovarian cysts (31 cases, 47%) of size more than 5 cm were surgically managed.

Observational management was done in 31 (47%) patients; most of them had smaller cyst size < 5 cms and most of them presented with non-specific symptoms. Most of them there was complete regression of symptoms while others needed medical management for short span during follow up.

The higher incidence of surgical management in this study is due to the hospital being tertiary care centre and most of the patients come to resort after a long ignorance of symptoms and prolonged improper or failed medical management given at peripheries by the quacks. In our study laparotomy was done in 21 (72%) and laproscopy in 8 (28%). Intraoperative findings revealed bowel adhesions in 5 cases, one patient among these sustained small bowel injury intraoperatively due to dense adhesions, had a long hospital stay with complete recovery. There was one case of bladder and uretric injury each which was identified immediately and managed.

## CONCLUSION

Ovarian cancer is one of the most common gynaecologic cancers that rank third after cervical and uterine cancer [12]. It also has the worst prognosis and highest mortality rate [13].

In the present study, out of 35 cases that required reoperation due to post hysterectomy ovarian cyst belonged to patients who underwent hysterectomy with bilateral conservation of ovaries, in 82% and in 18% patients with hysterectomy with unilateral oophorectomy.

The number of bilateral salpingo-oophorectomies performed concomitantly with hysterectomy has been declining over the last 10 years, particularly among women aged under 55 years [15]. The American Congress of Obstetricians and Gynecologists, in the practice bulletin reaffirmed in 2016, states that 'strong consideration should be made for retaining normal ovaries [17]. However, women with ovarian preservation are at risk for future oophorectomy [18] for which patient counselling and decision to perform repeat surgery should be done on an individual basis.

## REFERENCES

1. Shiber, L. D. J., Gregory, E. J., Gaskins, J. T., & Biscette, S. M. (2016). Adnexal masses requiring reoperation in women with previous hysterectomy with or without adnexectomy. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 200, 123-127.
2. NAZ, F. F., & Begum, A. (2004). Experience with pelvic masses following hysterectomy for benign diseases. *Biomedica*, 20(02), 106-109.
3. Parker, W.H., Feskanich. D., Border. M.S., *et al.*, (2009). Long term mortality associated with oophorectomy compared with preservation in the nurse's health study. *Obstet Gynecol*, 121: 709-16.
4. Farghaly, S. A. (2014). Current diagnosis and management of ovarian cysts. *Clinical and experimental obstetrics & gynecology*, 41(6), 609-612.
5. Medeiros, L. R., Rosa, D. D., Bozzetti, M. C., Fachel, J. M., Furness, S., Garry, R., ... & Stein, A. T. (2009). Laparoscopy versus laparotomy for benign ovarian tumour. *Cochrane Database of Systematic Reviews*, (2).
6. Bottomley, C., & Bourne, T. (2009). Diagnosis and management of ovarian cyst accidents. *Best practice & research Clinical obstetrics & gynaecology*, 23(5), 711-724.
7. Runnebaum, I. B., & Stickeler, E. (2001). Epidemiological and molecular aspects of ovarian cancer risk. *Journal of cancer research and clinical oncology*, 127(2), 73-79.
8. Karp, N. E., Fenner, D. E., Burgunder-Zdravkovski, L., & Morgan, D. M. (2015). Removal of normal ovaries in women under age 51 at the time of hysterectomy. *American journal of obstetrics and gynecology*, 213(5), 716-e1.
9. Plöckinger, B., & Kölbl, H. (1994). Development of ovarian pathology after hysterectomy without oophorectomy. *Journal of the American College of Surgeons*, 178(6), 581-585.

10. Baloglu, A., Bezircioglu, I., Cetinkaya, B., Karci, L., & Bicer, M. (2010). Development of secondary ovarian lesions after hysterectomy without oophorectomy versus unilateral oophorectomy for benign conditions: a retrospective analysis of patients during a nine-year period of observation. *Clinical & Experimental Obstetrics & Gynecology*, 37(4), 299.
11. Chiang, G., & Levine, D. (2004). Imaging of adnexal masses in pregnancy. *Journal of ultrasound in medicine*, 23(6), 805-819.
12. Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & Jemal, A. (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: a cancer journal for clinicians*, 68(6), 394-424.
13. Coburn, S. B., Bray, F., Sherman, M. E., & Trabert, B. (2017). International patterns and trends in ovarian cancer incidence, overall and by histologic subtype. *International journal of cancer*, 140(11), 2451-2460.
14. Bhatnagar, P., Desai, E., Patel, U., & Leuva, B. (2013). Delayed re-laparotomy after total hysterectomy. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 2(1), 13.
15. Jacoby, V. L. (2014). Hysterectomy controversies: ovarian and cervical preservation. *Clinical obstetrics and gynecology*, 57(1), 95-105.
16. Casiano, E. R., Trabuco, E. C., Bharucha, A. E., Weaver, M. A. L., Schleck, M. C. D., Melton III, L. J., & Gebhart, J. B. (2013). Risk of oophorectomy after hysterectomy. *Obstetrics and gynecology*, 121(5).
17. ACOG. ACOG (2008). Practice Bulletin No. 89. Elective and risk-reducing salpingo-oophorectomy. *Obstet Gynecol*. 111, 231-41.
18. Berek, J. S., Chalas, E., Edelson, M., Moore, D. H., Burke, W. M., Cliby, W. A., ... & Society of Gynecologic Oncologists Clinical Practice Committee. (2010). Prophylactic and risk-reducing bilateral salpingo-oophorectomy: recommendations based on risk of ovarian cancer. *Obstetrics & Gynecology*, 116(3), 733-743.
19. Öksüzöğlü, A., Özyer, Ş., Yörük, Ö., Aksoy, R. T., Yumuşak, Ö. H., & Evliyaoğlu, Ö. (2019). Adnexal lesions after hysterectomy: A retrospective observational study. *Journal of the Turkish German Gynecological Association*, 20(3), 165.
20. Dekel, A., Efrat, Z., Orvieto, R., Levy, T., Dicker, D., Gal, R., & Ben-Rafael, Z. (1996). The residual ovary syndrome: a 20-year experience. *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 68, 159-164.