

Analysis of Age Wise Distribution and Operative Pattern in Patients Operated for Ovarian Cyst or Mass in a Tertiary Care Center of Northern Himalayan Region

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Abstract

Original Research Article

Objective: This study was carried out to find the age wise distribution pattern of patients operated for ovarian cyst or mass and also to analyze the operative pattern in these patients. **Method:** We retrospectively analyzed the medical records of patients who underwent surgeries in Govt. Medical college, Haldwani from February 2015 to February 2018 of all age group and divided the data according to different age group 0-20yrs, 21-40yrs, and then >40yrs and then collaborated the finding according to which age group contributed to what percentage of total surgical cases under study. The cases were further analyzed to study the operative pattern followed. **Result:** There were total 80 cases Operated for ovarian cyst or mass during the period from Feb 2015 to Feb 2018. 4 cases (5%) belong to age group 0-20yrs, 47cases (58.7%) belong to age group 21-40yrs and 29cases (36.3%) belong to age group >40yrs. In the age group of 0-20yrs there were 2 cases (2.5%) of cystectomy and 2cases (2.5%) of oophorectomy. In the age group 21-40yrs there were 19 cystectomies (23.7%), 13 oophorectomy (16.25%) and 15 hysterectomies with unilateral or bilateral salpingo-oophorectomy (18.75%). In the age group >40yrs there were 25 cases (31.25%) of hysterectomy with unilateral or bilateral salpingo- oophorectomy, 2 cases (2.5%) of cystectomy, 1 case (1.25%) of salpingo-oophorectomy and 1 case (1.25%) Diagnostic Laparoscopy. **Conclusion:** Ovarian cyst/mass are most commonly seen in reproductive age group. Whenever surgical management is adopted it should be aimed towards ovarian conservation except in case of postmenopausal women, in cases where there is no viable ovarian tissue or when there is borderline or malignant ovarian mass. Laparoscopy is modality of choice in presence of sufficient expertise and experience.

Keywords: Age, Cysts, Himalayan.

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INTRODUCTION

The ovaries are paired sex gland or gonads in female and are concerned with germ cell maturation, storage and its release. The ovaries are also concerned with steroidogenesis. The ovary is covered by a single layer of cuboidal cells known as germinal epithelium. The substance of the glands consists of outer cortex which shows the structure changes during ovular cycle. The medulla consists of connective tissue, some unstripped muscles, blood vessels and nerves. Medulla also has hilus cells which are homologous to the interstitial cells of the testis.

The non neoplastic enlargement of the ovary is usually due to accumulation of fluid inside the functional unit of the ovary. The functional cysts can be distinguished from the neoplastic cyst as they are usually 6-8cm, asymptomatic, regress spontaneously,

are unilocular, contains clear fluid and lining epithelium is functional epithelium of the unit from which it arise [1].

Benign ovarian tumors predominantly manifest in late reproductive age, mostly are asymptomatic; however, some may show lump, heaviness, or dull ache in the Abdomen. USG and color doppler is diagnostic tool and helps to distinguish the benign from malignant.

Widespread use and availability of USG in pediatric imaging has led to an increase in the number of detected ovarian cysts in children suggesting that they are more common than considered in pediatric population. With frequent use of transvaginal ultrasound (TVS) clinician are detecting many simple ovarian cysts among post-menopausal. Because the natural history of simple ovarian cyst is not fully understood, the proper management of incidental

simple cyst in post menopausal women has been uncertain [2]. Aggressive surgical approaches for simple cyst management has given way to recommendations for careful monitoring [3-5] and so have raised the question of whether simple cyst need to be monitored at all [2].

Ovarian cysts are seen in all age group and are subdivided into physiological and pathological cysts [6]. Physiological cyst is mainly follicular and luteal cysts. Pathological cysts can be benign, borderline or intermediate and malignant in nature [6,7]. Benign ovarian cyst are the fourth leading gynecological cause of hospital admission and ovarian malignancies constitute the sixth leading cause of cancer in women the fourth common cause of cancer related death in females [8].

About two third of ovarian tumors occur in women of reproductive age. Fewer than 5% are in children. 75 to 80% ovarian tumors are benign, 55-65% of benign tumors occur in females under 40yrs. Benign serous tumors can occur at any age but are more common in reproductive age group. Serous carcinomas are extremely rare in first decades of life. Mucinous cystadenoma may occur at any age but are most often diagnosed in 4th-6th decade. Mucinous cancer has mean age of 53-54 years. In patients under age of 21, approximates 60% ovarian tumors are germ cell tumors, accounts for two third of ovarian cancer in 1st two decades of life [9].

The goal of evaluation is to rule out cancer. Management decisions are often based on patient's age, family history, patient's symptoms, imaging studies and blood testing results. Large or persistent ovarian cysts or cysts that are causing symptoms, usually need to be surgically removed. Surgery is also normally recommended if there are concerns that cyst could be cancerous or could become cancerous.

There are two type of surgeries used to remove ovarian cysts: Laparoscopy and Laparotomy. Most cysts can be removed using laparoscopy. It causes less pain and has a quicker recovery time. If the cyst is particularly large or there is a chance it could be cancerous, a laparotomy may be recommended. If the patient has not been through menopause, it is important to preserve as much of your reproductive system as possible. It's often possible to just remove the cyst and leave both ovaries intact. Sometimes one of the ovaries may need to be removed, which should not significantly affect the fertility. Occasionally, it may be necessary to remove both ovaries in women who haven't been through the menopause, which triggers an early menopause. In women who have been through menopause, both may be removed. In case of cancerous cyst, both of ovaries with uterus and parametrium may need to be removed. According to RCOG-2016, in a postmenopausal women a suspicious or persistent

complex adnexal mass needs surgical evaluation. Management include laparoscopic bilateral salpingo-oophorectomy rather than cystectomy and also the patient should be counselled preoperatively that a full staging laparotomy will be required if evidence of malignancy is revealed.

Keeping this entire knowledge in mind we therefore undertook a retrospective study to evaluate the age wise distribution pattern of cases operated for ovarian cyst or mass and also to analyze the type of surgical procedures adopted in the dept. of Obstetrics and Gynecology of Govt. Medical College, Haldwani, Uttarakhand.

MATERIALS AND METHODS

It was a retrospective study which was conducted by analyzing the data of women who were operated for ovarian cyst/mass in dept. of Obstetrics and Gynecology Govt. Medical College, Haldwani over a period Feb 2015 to Feb 2018. A total of 80 women were operated for ovarian cyst/mass during that duration. By analyzing the records of patients and their surgeries retrospectively, patients were first sought into three age groups of 0-20yrs, 21-40yrs and >40yrs. Number of patients belonging to each category were counted. Each category was further sub divided on the bases of type of surgeries whether cystectomy, oophorectomy, Hysterectomy with unilateral or bilateral salpingo-oophorectomy or laparotomy.

RESULTS

There were total 80 surgical cases for ovarian cyst/mass during the mentioned duration. Of them 4 cases (5%) belong to age group 0-20yrs, 47 cases (58.7%) belong to age group 21-40yrs and 29 cases (36.3%) belong to age group >40yrs. In the age group 0-20yrs there were 2 cases (2.5%) of cystectomy and 2 cases (2.5%) of oophorectomy. In the age group 21-40yrs there were 19 cystectomies (23.7%), 13 oophorectomies (16.25%) and 15 Hysterectomies with unilateral or bilateral salpingo-oophorectomy. In the age group >40yrs, there were 25 case (37.25%) of hysterectomy with unilateral or bilateral salpingo-oophorectomy which also included one case of staging laparotomy for suspected malignancy, 2 cases (2.5%) of cystectomy, 1 case (1.25%) of diagnostic laparoscopy. Of all the 80 cases 16 cases (20%) were done laparoscopically, one out of which has to be converted to laparotomy (1.25%). None of the patients above 40yrs were managed laparoscopically.

DISCUSSION

This study represents a single hospital based report to evaluate the age wise distribution of cases operated for ovarian cyst/mass and also to analyze the type of surgical procedure under taken.

Of all the patients operated only 4 cases (5%) belonged to age group 0-20yrs, most cases belong to age group 21-40yrs i.e. 47 (58.75) and cases of age group >40yrs were 29 (36.3%). According to a study in United Kingdom ovarian cyst are found on transvaginal sonogram in nearly all premenopausal women and in up to 18% of postmenopausal women [10,11]. Most of this cyst is functional in nature and benign. Ovarian cysts are the most common fetal and infant tumor with a prevalence exceeding 30% [12]. Most benign neoplastic cyst occurs during the reproductive years, but the age range is wide and they can occur in women of any age. The incidence of epithelial ovarian cystadenoma, sex cord stromal tumor and mesenchymal tumor arise exponentially with age until the sixth decade of life, at which point the incidence plateaus.

When surgery is indicated for benign ovarian disease preservation of ovarian tissue via cystectomy or enucleation of a solid tumor from the ovary is generally preferable to complete oophorectomy. When the ovary cannot be salvaged or insufficient viable tissue after attempts at conservation, oophorectomy is usually performed. Traditionally less effort was made to preserve ovarian function in post-menopausal patients because of the thought that ovary is no longer functional. That is no longer believed to be the case as recent studies have refuted this notion and support that there is lower all-cause mortality in patients who preserved ovarian function upto age 65 compared with those that had elective oophorectomy [13]. In our study group also out of 80 cases 23 were cases of cystectomy (28.75%). Of these cases 21 were in reproductive age group and two of peri and postmenopausal age group supporting the concept of preserving ovary if possible regardless of age.

There were 40 cases (50%) of hysterectomy with unilateral or bilateral salpingo-oophorectomy in our study one of which included staging laparotomy, all of these patients were above 30yrs with complete family. The overall incidence of symptomatic ovarian mass/cyst in a premenopausal female being malignant is approx. 1:1000 increasing to 3:1000 at age of 50 [14]. Also up to 20% of borderline ovarian tumor appears as simple cysts on ultrasonography [15]. According to RCOG in case of postmenopausal women an asymptomatic, simple, unilateral, unilocular ovarian cyst, less than 5 cm in diameter, have a low risk of malignancy. In the presence of normal serum CA-125 levels, this cyst can be managed conservatively, with a repeat evaluation in 4-6 months. But women who do not fit the criteria for conservative management should be offered surgery. Surgical treatment should be in the most suitable location and set up and by the most suitable surgeon as determined by the RMI. According to RCOG women with RMI of less than 200 (i.e. low risk of malignancy) are suitable for laparoscopic management. Laparoscopic management of ovarian cyst in postmenopausal women should comprise bilateral

salpingo-oophorectomy rather than cystectomy. All ovarian cysts that are suspicious of malignancy in a postmenopausal, as indicated by a $RMI \geq 200$, CT findings, clinical assessment or finding at laparoscopy, require a full laparotomy and staging procedure. If a malignancy is revealed during laparoscopy or from subsequent histology/ it is recommended that the women should be referred to a cancer center for further management [16, 17]. Laparoscopic management of ovarian cyst in women should be under taken by a surgeon with suitable experience. This may be one of the reason that none of the patients >40yrs were managed laparoscopically and also of all the 80 cases only 16 cases (20%) were managed laparoscopically.

Panici *et al.* [18] enrolled 227 patients with benign adnexal masses in a randomized clinical study, which compared management by laparoscopy to management by minilaparotomy. The authors found that only 3 (4.7%) patients required conversion from laparoscopy to laparotomy. In our center one case of laparoscopy has to be converted to laparotomy (1.25%). In case of premenopausal women ovarian cyst that persist or increase in size are unlikely to be functional and may warrant surgical management [19]. As discussed previously laparoscopy is the preferred mode depending upon the experience of the surgeon and the possibility of removing an ovary should be discussed with women preoperatively. In our study in the age group of 21-40yrs there were 19 cystectomies (23.7%), 13 oophorectomy (16.25%) and 15 hysterectomy with unilateral or bilateral salpingo- oophorectomy. The reason for hysterectomy with salpingo-oophorectomy in age group >30yrs is that the patients usually come from interior areas and there is a lot of possibilities of them not coming for follow up in case of large complex ovarian mass or either because they have other uterine problems like fibroid adenomyosis, DUB, UV prolapse associated with it.

CONCLUSION

Although it is considered that ovarian cyst/mass are more common in reproductive age group, but due to advanced diagnostic facilities more and more of cases are now easily being detected in infants, children and peri and postmenopausal age group. Infact some studies conclude it to be the most common cause of abdominal mass in female infants and children. Surgical options are now being actively adopted for large, complex cysts or those with other complications. Conserving as much of the ovaries is the priority in children and reproductive age group even in women with completed families as ovaries are considered to play a important role in the better health of women. Whereas in postmenopausal women as risk of cancer is more salpingo-oophorectomy can be done if there is a slightest doubt of cyst being borderline or malignant. Laparoscopy should always be surgical modality of choice unless there is some absolute contraindication,

although everything very much depends on the experience and expertise of the surgeon.

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