

## PREVALENCE OF GESTATIONAL OVARIAN CYSTS DETECTED BY ULTRASOUND

Zeeshan Ahmad<sup>1</sup>, Fazal Haq<sup>2</sup>, Bilal Bahadar<sup>3</sup>, Ifthekhar Ahmad<sup>4</sup>

### **ABSTRACT**

### **OBJECTIVES**

*To determine the prevalence of gestational ovarian cyst form in the early pregnancy or during first trimester that may contribute to the formation of ovarian cyst in pregnancy.*

### **METHODOLOGY**

*Data collected through patient's demographic history and questionnaire. For each case the patient's ultrasound images were evaluated to determine the type of cyst, ultrasound appearance, with their rates and location.*

### **RESULTS**

*Out of 111 patients were included in the study, the total incidence of ovarian cyst (Corpus luteum) in pregnancy were 1.8%. The ovarian cyst through analysis was found in patients whose gestational age was in the range of first trimester to second trimester. Other 109 (98.1%) Patients with family history of ovarian cyst, Diabetes, Induction therapy and Obesity found no cystic lesion. Patients included in this study were between the age of 18-48 Years*

### **CONCLUSION**

*The outcome of this study has shown that prevalence of ovarian cyst in pregnancy is very less because ovarian cyst that form in the first trimester usually resolve itself without given any medication or resection treatment. Obstetric ultrasound has been found to be accurate in figuring out simple, solid, and complex type of cyst in pregnancy.*

**KEYWORDS:** *Pregnancy, Ovarian cyst, Obstetrics, Ultrasound, Carcinoma*

**How to cite this article:**

Ahmad Z, Haq F, Bahadar B, Ahmad I. Prevalence of Gestational Ovarian Cysts Detected By Ultrasound. J Wazir Muhammad Inst Paramed Tech. 2022;2(1):2-5

**Correspondence**

<sup>1</sup>Zeeshan Ahmad, WMIP, Gandhara University, Peshawar

✉: +92-310-9360486

✉: zeeshan44ipms@gmail.com

<sup>2</sup>CSSD Manager, Khyber Teaching Hospital, Peshawar

<sup>3</sup>Lecturer, Iqra National University, Peshawar

<sup>4</sup>Assistant Manager, Northwest General Hospital, Peshawar

### **INTRODUCTION**

An ovarian growth is a sac loaded up with fluid (kindhearted) or semi fluid (complex) material that structure in an ovary. A large portion of these sores are considerate in nature and asymptomatic. Ovarian sores are the most well-known dermoid tumor, with a pervasiveness surpassing 30%. On the off chance that ovarian pimple left untreated it goes to ovarian carcinoma. The predominance of ovarian carcinoma is roughly 15 cases in 100,000 females in a year. In United State, ovarian carcinomas are

clinically analyzed more than 21,000 females every year, incurring an expected 14,600 deaths.<sup>1</sup> The general foreseen occurrence of adnexal masses in pregnancy ranges from 2% to 10%.<sup>2</sup> The detailed adnexal masses in pregnancy ranges from 1 of every 81 to 1 of every 8000 pregnancies.<sup>3</sup> Incidence of sonographic perceivable adnexal masses with most of masses settling precipitously in the term of pregnancy gauge a 1% - 4%.<sup>4,5</sup> If the lady is evaluated by bimanual assessment, an adnexal mass can be distinguished if it's miles in any event 5 cm in diameter.<sup>6</sup> Sometimes we discover ovarian blisters which may be enormous than 5cm, and which continue past 12 weeks. The event of muddled or basic nonstop sores estimating more prominent than 6 cm is just 0. 07%. A corpus luteum enduring into the subsequent trimester represents 13-17% of all cystic adnexal masses.<sup>7</sup> As per the ACOG core value, pelvic ultrasonography,

is viewed as the methodology of decision for assessing adnexal sores analyzed in pregnancy and is fitting for controlling careful mediation whenever demonstrated.<sup>8</sup> Ultrasonography is additionally basic in following adnexal masses to decide their turn of events or relapse in size and character. Additionally, Doppler ultrasound likewise can be utilized for what's more describing the injury with respect to the blood flow.<sup>9,10</sup> USS has been resolved to be precise in making sense of the dangerous ability of an adnexal mass; the more perplexing a tumor (i.e. The more septa and strong particles it conveys), the higher the odds of malignancy.<sup>11,12</sup> Cysts containing coagulated blood (hemorrhagic growths) can likewise found in pregnancy. Follicular sores are the most widely recognized utilitarian growths, which structure underneath the effect of hormonal changes in pregnancy. They speak to a follicle that didn't ovulate and relapse spontaneously.<sup>13</sup> Ovarian pimples enormous than 4 cm in distance across had been appeared to have a twist pace of around 15%. Harm might be found in up to 2% of instances of ovarian twist. The most ordinarily ovarian mass related with twist is a dermoid growth. In ovarian growth burst and discharge, ultrasonography can likewise show free liquid inside the pocket of douglas in 40% of cases.<sup>14</sup> Management in pregnancy relies upon on the size of the adnexal mass, its sonographic appearance and any associated clinical signs and symptoms, although most of the patients are probably to be asymptomatic. Simple cysts which are much less than 5 cm in diameter do no longer need in addition assessment and rescanning is handiest required if there is a clinical indication that is pelvic pain. Most simple cysts clear up spontaneously at any stage during the pregnancy. Cysts that have a complex nature, i.e., Solid, and cystic materials, need further investigation irrespective of size.<sup>14,15</sup>

## METHODOLOGY

The Cross-sectional Descriptive Study was conducted at tertiary care hospital Northwest General Hospital (NWGH) in Peshawar from May-August 2020. 111 total female married patients based on 5% significance level and 95% confidence interval through convenient sampling technique were selected. Calculated it on a Raosoft Calculator. All married Female pregnant patients, who Were symptomatic and asymptomatic of ovarian cyst coming for Obstetric ultrasound will be included. Those patients who already performed bilateral oophorectomy, surgical interventional procedure in the pelvic region and traumatic patients will be

excluded. Obstetric ultrasound was taken in the procedure in pregnant patients for the evaluation of gestational ovarian cyst. Those patients who already performed bilateral oophorectomy, surgical interventional procedure in pelvic region, traumatic patients and non-pregnant patients were excluded. Data collected through patient's demographic history and questionnaire. For each case the patient's age, type of cyst, ultrasound appearance, with their rates are inside and out detailed. After approval of the synopsis from Northwest Institute of health Sciences Peshawar, a formal approval was taken from in-charge of the concern department of selected tertiary care hospital (NWGH). Staff from radiology department were then approached by research team members and requested for participations in the study. Study's aim and objectives were explained to each participant before taken the consents. Data were recorded on a structured Performa/Questionnaire. Patients presenting for obstetric ultrasound, Assessment of pregnancy, Assessment of Biophysical profile; ultrasonic images were evaluated for the determination of ovarian cyst in pregnant patients. Statistical Package for Social Sciences (SPSS) version 22 is used.

## RESULTS

Out of 111 patient's total incidences of ovarian cyst (Follicular Corpus luteum) in pregnancy were 02 cases. The ovarian cyst in pregnant women was 1.8%. The prevalence of ovarian cyst through analysis was found in patients whose gestational age was in the range of first trimester to second-trimester. Other 109 cases found no ovarian cyst during examination. Percentage distribution of ovarian cyst in pregnant patients the total patients is 1.8% & 98.2% of patients found no ovarian cyst as shown in figure 1. The Gestational age group distribution of follicular corpus luteum cyst in 1.8% patients is clarified as in between 4 weeks to 20 weeks (first trimester to second trimester), having abdominal pain and swelling without any Induction therapy, family history of ovarian cyst and lies in the weight group of 65 to 85 kg. Obstetric ultrasound has been found to be accurate in figuring out simple, solid, and complex type of cyst in pregnancy. Simple ovarian cysts (Follicular, corpus Luteal) appear on ultrasound as Unilocular, thin-walled, anechoic lesion with the resolution rate of 90–100 if <5 cm in diameter.

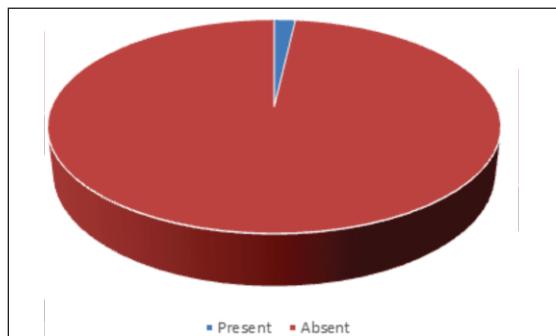


Figure 1: Shows the Prevalence of Ovarian Cyst

Table 1: It Represents the Clinical Representation of the Patients.

Clinical Presentations	Frequency	%Age
Diabetic Patients	01	0.9%
Obese Patients	01	0.9%
Induction Therapy Patients	14	2.6%
Family History of Ovarian Cyst	06	5.4%
Abdominal Swelling Patients	08	7.2%
Abdominal Pain Patients	48	43.2%
Total	78	70.00%

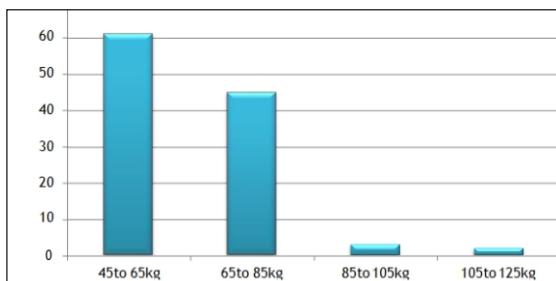


Figure 2: Shows the Weight of the Patients

## DISCUSSION

The routine obstetric ultrasound assessment adnexal masses were analyzed more much of the time than previously. The occurrence of adnexal masses during pregnancy was evaluated to be 0.2-2% relying upon the phase of pregnancy. With a 1-6% danger rate, by far most of these masses are kind.<sup>17</sup> In an investigation, in the Department of Obstetrics and Gynecology, King Abdulaziz University Hospital, Jeddah, Saudi Arabia.<sup>18</sup> There were 244 ovarian cysts during the investigation time frame. The age ran from 3 months to 77 years old. The equality from 0-6. The tallness goes from 37-180 cm. The weight territory from 3-161 kg and determined weight record went from 12-47. Out of 244 patients analyzed, 165 were hitched (67.4%).

of those, solitary 16 patients were pregnant (6.6%). The most widely recognized introduction was stomach torment in 142 patients (58.2%). Just 79.9% were ovarian cysts, and 17.5% were either para-ovarian or retroperitoneal. The correct ovaries were influenced in 63.1%, and just 18.9% were respective. The kinds of ovarian growths included utilitarian cysts 33.2%, favorable sore adenoma 19.3%, and dermoid blisters 12.3%. The general foreseen rate of adnexal masses in pregnancy ranges from 2% to 10%. In our study, the ovarian cyst in pregnant women was 1.8%. The prevalence of ovarian cyst through analysis was found in patients whose gestational age was in the range of first trimester to second- trimester. Other 109 cases found no ovarian cyst during examination. These were supported by another study which showed that incidence of adnexal masses during pregnancy is estimated to be 0.2-2% depending on the stage of pregnancy.<sup>19</sup>

## CONCLUSION

It is concluded that in pregnancy ovarian cyst mostly found in first to second trimester because it is usually resolve itself without any treatment or resection. Obstetric ultrasound has been found to be accurate in figuring out cyst in pregnancy.

## LIMITATIONS

Ultrasound machine can detect cystic lesion but only simple, solid, and complex type due to their appearance on ultrasound. If somebody's found complex type of cystic lesion during ultrasound examination, she further needs evaluation to determine the nature of the cyst. By using Biopsy procedure one's can detect the nature of the cyst (Endometrioma, Teratoma, Leiomyoma).

**CONFLICT OF INTEREST:** None

**FUNDING SOURCES:** None

## REFERENCES

1. Penny SM. Ovarian cancer: an overview. Radiologic Technology. 2020 Jul 1;91(6):561-75.
2. Cavaco-Gomes J, Jorge Moreira C, Rocha A, Mota R, Paiva V, Costa A. Investigation and management of adnexal masses in pregnancy. Scientifica. 2016 Mar 28;2016.
3. Hakoun AM, Shaar IA, Zaza KJ, Abou-Al

- Shaar H, Salloum MN. Adnexal masses in pregnancy: An updated review. *Avicenna Journal of Medicine*. 2017 Oct;7(04):153-7.
4. Bailleux M, Bernard JP, Benachi A, Deffieux X. Ovarian endometriosis during pregnancy: a series of 53 endometriomas. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 2017 Feb 1;209:100-4.
  5. D'Ambrosio V, Brunelli R, Musacchio L, Del Negro V, Vena F, Bocuzzi G, Boccherini C, Di Donato V, Piccioni MG, Benedetti Panici P, Giancotti A. Adnexal masses in pregnancy: an updated review on diagnosis and treatment. *Tumori journal*. 2021 Feb;107(1):12-6.
  6. Martone S, Troia L, Luisi S. Adnexal masses during pregnancy: management for a better approach. *Gynecological Surgery*. 2021 Dec;18(1):1-8.
  7. Gupta KK, Gupta VK, Naumann RW. Ovarian cancer: screening and future directions. *International Journal of Gynecologic Cancer*. 2019 Jan 1;29(1).
  8. Warsof S. Legal Concepts and Best Practices in Obstetrics: The Nuts and Bolts Guide to Mitigating Risk. Lippincott Williams & Wilkins; 2019 Sep 9.
  9. Yu C, Wang J, Lu W, Xie X, Cheng X, Li X. Analysis of adnexal mass managed during cesarean section. *Advances in Clinical and Experimental Medicine*. 2019;28(4):447-52.
  10. Zhang Z, Zheng X, Zhang M, Li J, Zhao J, Zheng J, Wang S. Pathological features of persistent adnexal masses in pregnancy. *Annals of Translational Medicine*. 2021 Jun;9(12).
  11. Benacerraf BR. Ultrasonic diagnosis of ovarian masses: can the playing field be leveled and raised at the same time?. *American Journal of Obstetrics & Gynecology*. 2016 Apr 1;214(4):419-21.
  12. Shetty M. Imaging and differential diagnosis of ovarian cancer. In *Seminars in Ultrasound, CT and MRI* 2019 Aug 1 (Vol. 40, No. 4, pp. 302-318). WB Saunders.
  13. Ye P, Zhao N, Shu J, Shen H, Wang Y, Chen L, Yan X. Laparoscopy versus open surgery for adnexal masses in pregnancy: a meta-analytic review. *Archives of gynecology and obstetrics*. 2019 Mar;299(3):625-34.
  14. Winata IG, Sabatini EP, Purnomo FS. Diagnosis And Treatment of Benign Ovarian Tumors. *European Journal of Medical and Health Sciences*. 2022 Apr 15;4(2):1-3.
  15. Canavan TP. Sonographic tips for evaluation of adnexal masses in pregnancy. *Clinical Obstetrics and Gynecology*. 2017 Sep 1;60(3):575-85.
  16. Kamalimanesh B, Esfehani RJ, Agah J. Papillary serous cystadenoma of ovary: A huge ovarian cyst complicating the pregnancy. *J Cases Obstet Gynecol*. 2016;3(4):121-4.
  17. Masselli G, Derme M, Gualdi G. Acute abdominal pain in pregnant patients. In *MDCT and MR Imaging of Acute Abdomen* 2018 (pp. 179-192). Springer, Cham.
  18. Farid G, Chamsi AT, Swaraldahab M. The Demographic Characteristics of Patients with Benign Ovarian Cyst and Histological Pattern in a Tertiary Center in Riyadh, Saudi Arabia. *Gynecol Reprod Health*. 2021; 5 (6): 1-6. Correspondence: Ahmad Talal Chamsi, MBBS, Department of Obstetrics and Gynecology, Security Forces Hospital, Riyadh.;11481.
  19. Sadaf R, Zahid M, Kishwar N, Farhad U, Khalil BK. Covid-19 Positive Antenatal Patients in Obstetrics and Gynea Unit, Peshawar. *Journal of Gandhara Medical and Dental Science*. 2021 Apr 1;8(2):14-8.

### CONTRIBUTORS

1. **Zeeshan Ahmad** - Concept & Design; Data Acquisition; Data Analysis/Interpretation; Drafting Manuscript; Critical Revision; Supervision; Final Approval
2. **Fazal Haq** - Concept & Design; Data Analysis/Interpretation; Drafting Manuscript; Final Approval
3. **Bilal Bahadar** - Data Acquisition; Drafting Manuscript; Critical Revision
4. **Ifthekhar Ahmad** - Data Acquisition; Drafting Manuscript; Critical Revision