Section: Obstetrics and Gynecology

Original Research Article

ADNEXAL MASSES IN REPRODUCTIVE AGE GROUP WOMEN PRESENTING AS ACUTE ABDOMEN IN A TERTIARY CARE TEACHING HOSPITAL

Jaya Kumari[1], *Manoj Kumar Mishra*[2]

[1]*Associate Professor, Department of Obstetrics and Gynecology, World College of Medical Sciences Research and Hospital, Jhajjar, India.*
[2]*Associate Professor, Department of Surgery, World College of Medical Sciences Research and Hospital, Jhajjar, India.*

Received *: 12/10/2025*
Received in revised form *: 05/11/2025*
Accepted *: 14/11/2025*

Corresponding Author:
Dr. Jaya Kumari,
Associate Professor, Department of Obstetrics and Gynecology, World College of Medical Sciences Research and Hospital, Jhajjar, India.
Email:dr.jaya.pathak@gmail.com

DOI: 10.70034/ijmedph.2025.4.263

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2025; 15 (4); 1471-1474

ABSTRACT

Background: A common gynecologic condition is an adnexal mass, which is a mass of the ovary, fallopian tube, or adjacent connective tissues. Women in the reproductive age range and occasionally teenagers experience acute surgical emergencies of gynecological origin. To preserve ovarian function, early diagnosis and treatment are crucial, particularly for teenage girls.

Materials and Methods: The present study included 61 females who had adnexal masses, and their clinical history was taken followed by clinical examination and investigations. One patient who had an adnexal mass on USG but had a deteriorated sub-serosal fibroid on laproscopy—for which a myomectomy was performed—was removed from the study.

Results: The majority of the patients were in the peri-menopausal age range. Three patients, one with endometrioma, one with pure dysgerminoma, and one with serous cystadenoma, were in the adolescent age bracket. There were only two postmenopausal patients; one had benign ovarian tumors and the other had malignant ones. Abdominal pain was the most often reported symptom, followed by an abdominal lump. Four of the five patients who had an acute abdomen with an adnexal mass had an ectopic pregnancy, and one patient had an ovarian torsion.

Conclusion: The adnexal mass must be assessed both radiologically and clinically. The goal of any examination should be to distinguish between benign and malignant tumors. To plan the best course of action, preoperative identification of benign or malignant masses is crucial.

Keyword: Adnexal mass, CA-125, RMI, Ovarian mass and acute abdomen.

INTRODUCTION

A common gynecologic condition is an adnexal mass, which is a mass of the ovary, fallopian tube, or surrounding connective tissues.[1] Women in the reproductive age range and occasionally teenagers experience acute surgical emergencies of gynecological origin. To preserve ovarian function, early diagnosis and treatment are crucial, particularly for teenage girls. Abdominal discomfort, nausea, and vomiting are examples of acute symptoms that women with adnexal masses may experience.[2] One common gynecological emergency is adnexal torsion, which is defined as whole or partial rotation of the adnexa that obstructs venous and lymphatic flow in the ovary. Adnexal torsion can be clinically mimicked by a wide range of gynecologic disorders. These include burst ovarian cysts, endometriomas, appendicitis, and tubo-ovarian abscesses. Clinical diagnosis of adnexal masses is based on examination and symptoms, however it can be difficult if a normal adnexa is torsioned or if an unmarried woman cannot have a pelvic exam. Russell claims that there has never been a comprehensive evaluation of pelvic examination, despite its potential drawbacks, including examiner experience, patient weight, patient anxiety, or symptomatology.[3] The most popular initial method for diagnosing adnexal masses to rule out torsion is ultrasound with doppler flow. To preserve ovarian function, early diagnosis and treatment are crucial. Although imaging aids in diagnosis, the majority of adnexal masses are found during surgery. The ideal surgical technique,

particularly for younger patients, is laparoscopic conservative surgery. The current study's objectives were to assess the proportion of benign and malignant aetiology in patients who had an adnexal mass and, secondly, to establish a correlation between the preoperative and histopathological diagnoses.

MATERIALS AND METHODS

This present prospective observational study was conducted in the Department of Obstetrics and Gynecology, World College of Medical Sciences Research and Hospital, Jhajjar. The Institute's ethics committee approved the study. Before the patient was enrolled in the trial, written consent was obtained. All females in age group 15 to 52 with adnexal masses (confirmed on clinical and ultrasound examination). All patients who were willing to participate in the study and who had adnexal masses on clinical examination and investigations were included. Any mass with a cause other than adnexal mass, such as subserosal fibroid or intestinal/mesenteric origin, and patients who refused to take part in the study were excluded. A thorough history and clinical examination, including a general and gynecological examination, were performed on each patient who was part of the study. Ultrasonography (and contrast-enhanced computerized tomography, if applicable) was used for imaging in addition to basic blood biochemistry and haematological studies. Relevant tumor markers were measured, including CA-125 in all cases, Alpha fetopotein, LDH, and beta HCG in patients under 35, and CEA if primary gastrointestinal cancer or Krukenberg'stumors were suspected. These studies led to a preliminary diagnosis, and the patient underwent surgery in accordance with the diagnosis. The Department of Pathology provided the final histopathological diagnosis. Risk of malignancy index (RMI) was associated with both the initial diagnosis and the final diagnosis following the histopathology report. A pre-made proforma was filled out with all the information, including the patient's demographics, presenting symptoms, examination results, investigations (imaging report, tumor markers), Risk Malignancy Score, surgical procedure and peroperative findings, and final histopathological report. The data was further entered into an excel sheet, statistical analysis was performed, and the findings were obtained in the form of mean and percentage.

RESULTS

The present study included 61 individuals who had adnexal masses, and the following findings were noted. One patient who had an adnexal mass on USG but had a degenerated sub-serosal fibroid on laproscopy—for which a myomectomy was performed—was removed from the study. The patients' ages ranged from 15 to 52, with a mean age of 38.34 years at observation. [Figure 1]

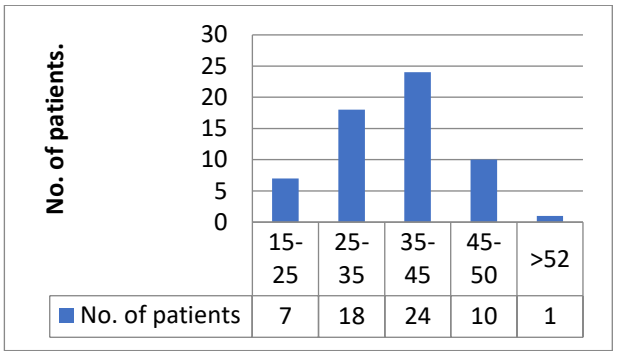

Figure 1: Shows the age related incidence of Adnexal masses

The majority of the patients were in the peri-menopausal age range. Three patients, one with endometrioma, one with pure dysgerminoma, and one with serous cystadenoma, were in the adolescent age bracket. There were only two postmenopausal patients; one had benign ovarian tumors and the other had malignant ones. Abdominal pain was the most often reported symptom, followed by an abdominal lump. Four of the five patients who had an acute abdomen with an adnexal mass had an ectopic pregnancy, and one patient had an ovarian torsion [Figure 2]. It was discovered that unilateral masses were more prevalent than bilateral ones. Of the sixty-one patients, fifty-four had unilateral ovarian masses (29 on the left and 25 on the right), seven had bilateral masses, five of which had bilateral endometriomas, and two of which were malignant.

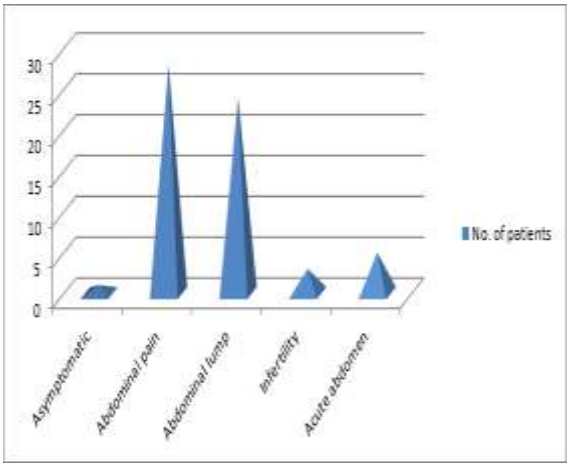

Figure 2: Shows the symptomatology at presentation

With the exception of one patient who complained of abdominal pain and had hydrosalpinx on USG, all of these instances were identified with an adnexal mass on clinical examination.

52 (85.24%) of the 61 patients had benign aetiology, while 7 (11.47%) had malignant aetiology. [Figure 3]

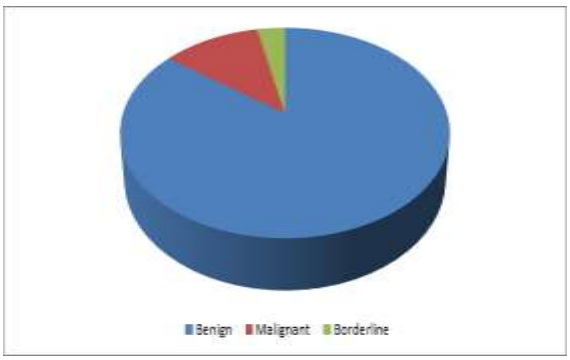

Figure 3: Shows the histopathological types of various Adnexal masses

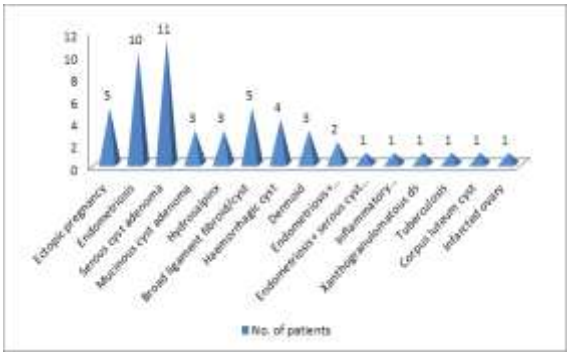

Figure 4: Shows the detailed histopathology of all benign cases

Of the fifty-two cases with benign aetiology, ten had endometriosis, three had mucinous cystadenoma, and eleven had serous cystadenoma. Benign aetiologies were discovered in two cases that appeared to be cancerous. In one case, diagnosis was xantho-granulomatous ovary and in one patient there was a big mass with dense adhesions with increased CA-125 and was diagnosed as tuberculosis [fig.-4]. Two of the nine (14.75%) malignant cases were of the borderline variety [fig. 5]. There were two borderline cases one of borderline serous cystadenocarcinoma (50%) and borderline mucinous cystadenocarcinoma (50%), respectively [Table 1].

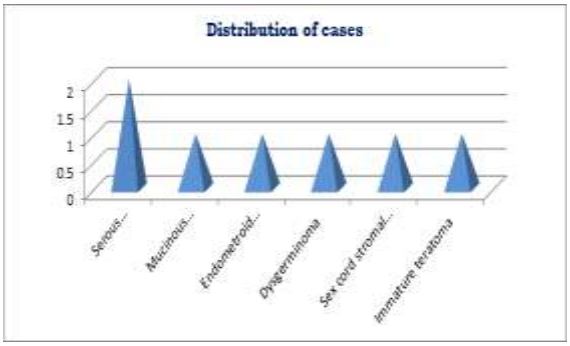

Figure 5: Shows the detailed histopathogy of all malignant cases

Table 1: Histopathological details of Borderline cases

Borderline	N=2
Borderline mucinous	**1** (1.63%)
Borderline serous	**1** (1.63%)

On histological examination, 55.6% of all malignant patients had an RMI score greater than 200, while 94.23% of benign cases had an RMI score less than 200 [Table 2]. Our series' specificity is 96.28% (95%CI=87.31% to 99.54%) and sensitivity is 66.24% (95%CI=32.65% to 91.18%).

Table 2: Shows the distribution of subjects by RMI less than/more than 200

RMI	Benign (n=52)	Borderline(N=2)	Malignant(n=9)
<200	49 (94.23%)	1 (50.0%)	2 (22.2%)
>200	03 (5.76%)	1 (50.0%)	5 (55.6%)

DISCUSSION

A prospective observational research of women experiencing pain from adnexal masses was eliminated from the study if the patient had a degenerated sub-serosal fibroid on laproscopy, which required a myomectomy. The demographic characteristics were similar to those reported by Koo et al. in 2011.[4] Women who have adnexal masses may exhibit acute symptoms such nausea, vomiting, and abdominal pain. Pain and nausea were the most prevalent symptoms in our study, which was consistent with previous research.[5] A few studies have been conducted on laparoscopic treatment of adnexal torsion both during and after pregnancy. Similar to our investigation, the majority of studies showed adult teratoma as the most prevalent tumor.[6,7]

Pelvic examination is proven to be very sensitive for the diagnosis of adnexal mass, as we were able to detect the presence of the mass in all but one of the patients. Nevertheless, additional work-up was required. This is consistent with other research.[8] While we acknowledge that clinical examination always has its limitations, training should be comprehensive to diagnose or suspect these cases on clinical examination in developing nations like India, where investigation facilities are not always available in remote settings. This will allow for prompt and appropriate referral and early treatment. Although there are conflicting studies in the literature that show that the sensitivity of clinical examination in detecting adnexal masses is low,[9]we want to emphasize that clinical

examination is an essential component of diagnosing any adnexal mass and is always very informative if done carefully and precisely. However, further assessment and management plan investigations are required. Before beginning treatment, it is crucial to distinguish between benign and malignant masses.[10] RMIis a tried and tested method for this, and it is part of the protocol for all instances with adnexal masses at our institute. We discovered that it had a good predictive value in the current study as well,[11] as earlier investigations have also shown. Our series' sensitivity of 66.24% (95% CI=32.65% to 91.18%) and specificity of 96.28% (95% CI=87.31% to 99.54%) are consistent with previous research that found 58% and 97% sensitivity and specificity, respectively.[12]Because RMI is straightforward, easy to use, inexpensive, and has a high predictive value, it is crucial to emphasize that its importance has not diminished despite the availability of other more recent tests and scoring systems. Even if there is only partial reperfusion following intraoperative detorsion, cautious surgery is currently advised for ovarian torsion.

CONCLUSION

In summary, these results imply that a thorough clinical examination, along with imaging and the application of case-appropriate tumor markers are necessary for the diagnosis of adnexal mass. To plan the best course of action, preoperative identification of benign or malignant masses is crucial. RMI has been shown to be a valuable tool for preoperative evaluation and subsequent management planning.

REFERENCES

1. Webb EM, Green GE, Scoutt LM. Adnexal mass with pelvic pain. RadiolClin North Am 2004;42:329-48.
2. Biggs WS, Marks ST. Diagnosis and Management of Adnexal Masses. Am Fam Physician. 2016;93:676-81.
3. Russell DJ. The female pelvic mass: Diagnosis and management. Med Clin North Am. 1995;79:1481-93.
4. Guzel AI, Kuyumcuoglu U, Erdemoglu M. Adnexal masses in postmenopausal [4] and reproductive age women. Journal of Experimental Therapeutics and Oncology. 2011;9:167-69.
5. Karakaya B, Ozgu E, Kansu H, Evliyaoglu O, Sarikaya E, Coskun B, et al. Evaluation of probably benign adnexal masses in postmenopausal women. Rev Bras Ginecol e Obs/RBGO Gynecol Obstet. 2017;39(05):229-34.
6. Padilla LA, Radosevich DM, Milad MP. Accuracy of the pelvic examination in detecting adnexal masses. Obstetrics and Gynecology. 2000;96:593-98.
7. Aktürk E, Karaca RE, Alanbay I, Dede M, Karas¸ ahin E, Yenen MC, et al. Comparison of four malignancy risk indices in the detection of malignant ovarian masses. Journal of Gynecologic Oncology. 2011;22:177-82.
8. Morgante G, La Marca A, Ditto A, De Leo V. Comparison of two malignancy risk [8] indices based on serum CA125, ultrasound score and menopausal status in the diagnosis of ovarian masses. BJOG: An International Journal of Obstetrics and Gynaecology. 1999;106:524-27.
9. Hartman CA, Juliato CRT, Sarian LO, Toledo MC, Jales RM, Morais SS, et al. Ultrasound criteria and CA 125 as predictive variables of ovarian cancer in women with adnexal tumors. Ultrasound ObsGynecol [Internet]. 2012[cited 2019 Jul 5];40:360- 66.
10. Malkasian GD, Knapp RC, Lavin PT, Zurawski VR, Podratz KC, Stanhope CR, et al. Preoperative evaluation of serum CA 125 levels in premenopausal and postmenopausal patients with pelvic masses: discrimination of benign from malignant disease. Am J ObstetGynecol [Internet]. 1988[cited 2019 Jul 5];159(2):341-46.
11. Yazbek J, Raju SK, Ben-Nagi J, Holland TK, Hillaby K, Jurkovic D. Effect of quality of gynaecological ultrasonography on management of patients with suspected ovarian cancer: A randomised controlled trial. The Lancet Oncology. 2008;9:124-31.
12. Damigos E, Johns J, Ross J. An update on the diagnosis and management of ovarian torsion. The Obstetrician and Gynecologist 2012;14:229-36.