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Evaluation of Laparoscopic Management of Adnexal Mass- An Observational Study in a Tertiary Care Hospital

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Abstract

Background: Adnexal masses are of increasing distress among women because of high fatality related to ovarian malignancy. Finding masses at the primary stage is of crucial significance and in these cases, adnexal masses could be dangerous. Laparoscopy has seemed as one of the most feasible surgical procedures and is now recommended as the "gold standard" method for the management of a wide range of gynecological complaints. The study aimed to determine the evaluation of laparoscopic management of adnexal mass. **Material & Methods:** A prospective observational study was carried out in the Department of Gynecology & Obstetrics, Ibn Sina Medical College and Hospital, Kallyanpur, Dhaka from 1st January 2020 to July 2022. A total of 146 patients (N=146) were enrolled in this study. Data were collected using the predesigned semi-structured questionnaire. Verbal consent was taken before recruiting the study population. Completed data forms were reviewed, edited, and processed for computer data entry. The data analysis was performed using Statistical Package for the Social Sciences (SPSS) Version 25.0. **Results:** Among the study population (N=146), the majority of the patients (70,48.0%) belonged to 21-30 years old. Most of the patients (124, 85.0%) were of the reproductive age group & only five patients (5, 3.4%) were of postmenstrual age. Most of the patients (38,26.0%) had ectopic mass, and around one-fourth of the patients (35,24.0%) had a simple cyst. around two-fifths of the patients (63,43.1%) underwent ovarian cystectomy, one-fourth of the patients (37,25.3%) underwent salpingectomy, twenty patients (20,13.7%) underwent excision of chocolate cyst, fourteen patients (14,9.6%) underwent salpingo-oophorectomy and two patients (2,1.4%) underwent conversion to laparotomy. Postoperative fever was seen in only three patients (3,2.0%), and minor port-site infection was seen in three patients (3,2.0%). **Conclusion:** The diagnosis of adnexal masses is indispensable which may upset all age groups of women. The laparoscopic method is an operative and innocuous procedure for managing patients with adnexal masses. An adequate selection of cases, a laparoscopic surgery-based hospital, and a proficient laparoscopic surgical team are vigorous for good patient consequences.

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INTRODUCTION

Adnexal masses are of increasing concern among women because of the high fatality associated with ovarian malignancy, as they are diagnosed at an advanced stage due to indefinite symptoms and lack recommended screening tests.[1] Masses are most commonly benign & they even go away on their own over time, however, a small percentage is malignant or cancerous and diagnosis of these at the initial possible stage is of crucial importance in these cases, adnexal masses could be life-threatening.[2] Large masses are at increased risk of bleeding, intracystic hemorrhage, rupture or leakage, and torsion.[3] In the United States, the diagnosis of an adnexal mass occurs in five to ten per cent of women in their lifetime.[4] The incidence of adnexal mass is the sixth most frequent malignancy among women universally.[5] Most of the adnexal masses develop in the ovary and can be cancerous and depending on the size of the mass and whether it is suspected to be malignant, surgery may be required.[6] With improvements in slightly invasive, robotic-assisted technology, adnexal masses can be extracted via laparoscopic surgery.[7] Laparoscopy has appeared as one of the most feasible surgical procedures. The faster recovery period, least pain, fewer days of hospitalization, improved aesthetic results, and relatively lesser risk of complications have made laparoscopy enormously popular.[8] Laparoscopic surgery has now been recommended as the "gold standard" approach for the management of a wide range of gynaecological complaints including adnexal masses.[9] The majority of the adnexal masses arise from ovaries, however, a large variety of pathologies may be associated and tubo-ovarian abscess, ectopic pregnancy, subserosal fibroids with pedicle, and appendicular mass are the common pathologies.[10] Laparoscopy has also gained popularity worldwide as it causes less blood loss and less trauma to patients.[11] Even though laparoscopy in adults is widely acknowledged, its advantages in children are still questionable.[12] The efficacy of laparoscopy is inferior to open surgery in certain conditions such as pyloromyotomy for infantile hypertrophic pyloric stenosis.[13] Though the surgical procedures are challenging, performing laparoscopy surgery in patients is quite recommendable due to fewer complications. This study intended to determine the evaluation of laparoscopic management of adnexal mass.

Objectives

- The aim of the study was to determine the evaluation of laparoscopic management of adnexal mass.

MATERIAL AND METHODS

A prospective observational study was carried out in the Department of Gynecology & Obstetrics, Ibn Sina Medical College and Hospital, Kallyanpur, Dhaka from 1st January 2020 to July 2022. A total of 146 patients (N=146) were enrolled in this study following the inclusive criteria. Data were collected using the predesigned semi-structured questionnaire. All observations were noted in the clinical data sheet. The results were calculated and interpreted through appropriate statistical analysis with the help of a statistician and presented with a table with other illustrations. Verbal consent was taken before recruiting the study population. Ethical clearance was taken

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from the hospital. The information was kept confidential only to be used for the study purpose.

Inclusion Criteria

- Patients with distinct symptoms, such as amenorrhea, abdominal pain, dysmenorrhea, menstrual irregularities, etc.
- Patients willing to participate in the study.

Exclusion Criteria

- Present or past history of cancer.
- An absence of pathology confirmation
- Incomplete recorded data.

Data Analysis

The study coordinators performed random checks to verify data collection processes. Completed data forms were reviewed, edited, and processed for computer data entry. Frequencies, percentages were used for descriptive analysis. The data analysis was performed using Statistical Package for the Social Sciences (SPSS) Version 25.0.

RESULTS

Among the study population (N=146), fifteen patients (15,10.3%) belonged to11 to 20 years old, the majority of the patients (70,48.0%) belonged to 21-30 years old, about one-fourth of the patients (37,25.3%) belonged to 31-40 years of old, and only five patients (5, 3.4%) belonged to more than 50 years old. Most of the patients (124, 85.0%) were of the reproductive age group & only five patients (5, 3.4%) were of post menstrual age. Based on the type of adnexal mass, most of the patients (38,26.0%) had ectopic mass, around one-fourth of the patients (35,24.0%) had a simple cyst, twenty-three patients (23,15.8%) had a chocolate cyst, twelve patients (12,8.2%) had a dermoid cyst, eight patients (8,5.5%) had hemorrhagic cyst & seventeen patients (17,11.6%) had complex cyst [Table 1]. Based on laparoscopic procedure, around two-fifths of the patients (63,43.1%) underwent ovarian cystectomy, one-fourth of the patients (37,25.3%) underwent salpingectomy, twenty patients (20,13.7%) underwent excision of the chocolate cyst, fourteen patients (14,9.6%) underwent salpingo-oophorectomy and two patients (2,1.4%) underwent conversion to laparotomy [Table 2]. Based on intraoperative parameters, the mean operative time duration was 85.8 minutes, the mean duration of postoperative hospital stay was 2 days, the mean conversion to laparotomy was done in only 2 patients, mean cyst diameter was 8 [Table 3]. Postoperative fever was seen in only three patients (3,2.0%), and minor port-site infection was seen in three patients (3,2.0%) [Table 4].

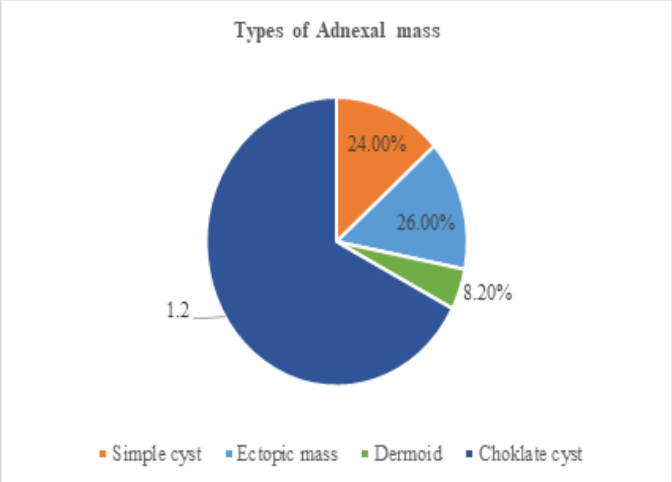

Figure 1: Pie chart showing the types of Adnexal mass.

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Table 1: Distribution of the study population based on Characteristics (N=146)

Characteristics	**(N,%)**
Age	
11-20	15,10.3%
21-30	70,48.0%
31-40	37,25.3%
41-50	19,13.0%
>50	5, 3.4%
Menstrual status	
Reproductive age group	124, 85.0%
Post menstrual	22,15.0%
Type of adnexal mass	
Simple cyst	35,24.0%
Complex cyst	17,11.6%
Hemorrhagic cyst	8,5.5%
Dermoid	12,8.2%
Serous cystadenoma	3,2.0%
Mucinous cystadenoma	1,0.6%
Chocolate cyst	23,15.8%
Twisted ovarian tumor	3,2.0%
Residual ovarian tumor	2,1.4%
Paraovarian tumors	4,2.7%
Ectopic mass	38,26.0%

Table 2: Distribution of the study population based on laparoscopic procedure (N=146)

Surgical procedure	**(N,%)**
Ovarian cystectomy	63,43.1%
Salpingectomy	37,25.3%
Salpingo-oophorectomy	14,9.6%
Excision of chocolate cyst	20,13.7%
Excision of parovaning cyst	4,2.7%
Adhesiolysis	5,3.4%
Salpingostomy	1,0.6%
Total Lap.Hys.&BlSO	5,3.4%
Conversion to laparotomy	2,1.4%

Table 3: Distribution of the study population based on Intraoperative parameter (N=146)

Intraoperative parameter	**Mean**	**Range**
Operative duration (min)	85.8	50-100
Duration of postoperative hospital stay (days)	2	1-4
Conversion to laparotomy	2	2

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Cyst diameter	8	7-12

Table 4: Distribution of the study population based on Postoperative complications (N=146)

Types of complications	**(N,%)**
Post-operative fever	3,2.0%
Minor port-site infection	3, 2.0%

DISCUSSION

Laparoscopy has been extensively used as a gold standard surgical method for adnexal mass abstraction. It is related to less operative pain, shorter hospital stays, and lesser intraoperative complications. This current observational study was carried out in the Department of Gynecology & Obstetrics, Ibn Sina Medical College and Hospital, Kallyanpur, Dhaka.

In this current analysis, patients were from 11 to more than 50 years. Another contradictory study based on ovarian mass laparoscopic surgery was done on patients of 2 to 17 years.[14] Another study found that the mean age of the patients was 48.214.0 years.[15]

Patients younger than 18 years of age underwent laparoscopy for the removal of adnexal mass depicted in another article.[16] Another related study found that most of the patients belonged to 21-30 years.[17]

In this current analysis, the majority of the patients (124, 85.0%) were of the reproductive age group & only five patients (5, 3.4%) were of post-menstrual age. Another contradictory study found that around half of the patients (41,50.6%) were of post-menstrual age and another half (40,49.4%) were of premenopausal age.[18]

In our recent study, most of the patients (38,26.0%) had ectopic mass, around one-fourth of the patients (35,24.0%) had a simple cyst, twenty-three patients (23,15.8%) had a chocolate cyst, twelve patients (12,8.2%) had a dermoid cyst, eight patients (8,5.5%) had hemorrhagic cyst & seventeen patients (17,11.6%) had a complex cyst. A study carried out in Sri Manakula Vinayagar Medical College and Hospital, Puducherry, showed that the most common tumour was an epithelial tumour, serous cystadenoma.[19] Another analysis conducted in Bangladesh described that the most common finding was serous cyst adenoma (48%) followed by chocolate cyst (14%), and dermoid cyst (7%).[17]

Another related article found that the most common finding was a follicular ovarian cyst (26.9%) followed by chocolate cysts (23.8%) and dermoids were found in relatively younger females in about 11.1% of cases.[8]

Another related study found that among 82.7% of premenopausal patients, 13 with malignant adnexal masses.[20]

In the current analysis, around two-fifths of the patients (63,43.1%) underwent ovarian cystectomy, one-fourth of the patients (37,25.3%) underwent salpingectomy, twenty patients (20,13.7%) underwent excision of the chocolate cyst, fourteen patients (14,9.6%) underwent salpingo-oophorectomy and two patients (2,1.4%) underwent conversion to laparotomy. In another article, the author found

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that the most usual surgery was ovarian cystectomy (41.2%). Salpingectomy was done in 12.6% of cases and salpingopherectomy was done in 11.1% of cases.[8]

Another article found similar findings such as the most common surgical procedure was ovarian cystectomy (39%), followed by salpingo-oophorectomy (22%).[17]

In this present analysis, postoperative fever was seen in only three patients (3,2.0%), and minor port-site infection was seen in three patients (3,2.0%). Another article found there were no intraoperative complications or major postoperative complications.[21] No complication was found in another article.[22] Another related article found that the same result such as minor port site infection was found in 5% of cases and recurrence of the chocolate cyst was found in 2% of cases. Another related article found that the most common complication was post-operative fever (4.7%) and pneumonia was an important post-operative anaesthetic complication in 3.1% of the cases.[8]

In this present analysis, it was seen that laparoscopy was a helpful procedure in the management of adnexal masses. Laparoscopy is more invasive compared to hysterectomy and is considered the "gold standard" of endometriosis surgeries.[23] In the absence of absolute anaesthesia contraindications, laparoscopy appears to be safe and feasible in old women.[24]

CONCLUSIONS

The detection of adnexal masses is essential which may upset females of all age groups. Most of the masses are diagnosed parenthetically. The laparoscopic approach is an operative and safe procedure for managing patients with adnexal masses. This surgical procedure has to be considered the initial choice for benign adnexal masses for its better panoramic vision, lesser operative time, shorter stay in the hospital, minimum postoperative complications, prior recovery and considerable patient satisfaction. Adequate selection of cases, a laparoscopic surgery-based hospital, and a proficient laparoscopic surgical team are vital for good patient outcomes.

Recommendation

Formulating specific guidelines is essential to identify adnexal masses. There is a necessity for setting a screening docket to cover all age groups for early detection and treatment of cases. Surgeons should be well qualified. Furthermore, strategies should be implemented to accelerate government programs. To get robust data, multicenter studies are in great need of policymakers to interpret the demonstrable scenario and to take necessary steps towards mitigating this problem.

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