Clinical Presentation and Risk Assessment of Ovarian Tumors in Baghdadian Women

Sarah Waleed Hashim¹, Rasha Zaki Shukur¹*, Haider Mohammed Jafer², Khudeir Jasim Al-Rawaq³

¹Radiation Oncologist, Al-Amal National Hospital, Baghdad Medical City Complex, Ministry of Health/ Environment, Baghdad, Iraq

²Family Medicine Specialty, Primary Health Care Center, Ministry of Health/ Environment, Baghdad, Iraq

³Assistant Professor, Clinical Radiation Oncology, Department of Surgery, College of Medicine, Baghdad University, Baghdad, Iraq

*Corresponding author:
Rasha Zaki Shukur
Al-Amal National Hospital, Baghdad Medical City Complex, Ministry of Health/ Environment, Baghdad 10007, Iraq.

Received: October 18, 2019
Published: November 21, 2019

ABSTRACT

Background: Ovarian cancer is the fourth leading cause of cancer death in women; median age at diagnosis is 63 years. It is highly curable if diagnosed at an early stage, but 75% of its present with stage III or IV disease. Many risk factors have been identified for ovarian cancer like the lifetime ovulatory cycles. The study aimed to define the different presenting signs and symptoms for ovarian cancer, outline the main risk factors responsible for ovarian cancer, and discuss the important points helpful for the prevention and decrease incidence.

Methods: This retrospective study which included 31 female patients already diagnosed with ovarian cancers and they attended the Alamal National Hospital at period between September 2012 to June 2013. The patients were assessed for the presenting features of the disease and major risk factors of ovarian cancer.

Results: There were 15 patients with age less than 50 years and 16 women belong to age 50 years and above. Regarding parity, 10 women were nullipara and 21 were multipara. Three patients only have a positive family history of breast cancer. 13 patients had a history of using hormonal drugs during their life time before they had the ovarian cancer. As a presenting sign and symptom; 14 patients presented with ascites, 10 with mass, 7 with vaginal bleeding and 16 with pain. At the time of diagnosis 17 patients presented with distant metastatic disease.

Conclusions: The incidence of ovarian cancer is mainly at age group of ≥ 50 years. Nulliparity is considered a risk factor for the development of ovarian cancer, in addition to family history after increasing age. The use of oral contraceptive pills is considered a protective factor against the development of ovarian cancer. Most of the cases presented in advanced stage at time of diagnosis. Epithelial tumors comprise the most
INTRODUCTION

Ovarian cancer is primarily a disease of postmenopausal women, with the large majority of cases occurring in women between 50 and 75 years old. The incidence of ovarian cancer increases with age and peaks at a rate of 61.5 per 100,000 women in the 75–79-year-old age group [1]. The etiology of ovarian cancer is not fully understood, and numerous studies have attempted to demonstrate possible links between environmental, dietary, reproductive, endocrine, viral, and hereditary factors and the risk of developing ovarian cancer. So far, the strongest risk factor for ovarian cancer is a familial pattern, reported in about 7% of women with the disease [2]. These tumours usually present late and only one-third are localized at the time of diagnosis. Early ovarian cancer is often asymptomatic. When symptoms occur they are often vague and are overlooked by patients, even when the tumour is locally advanced and abdominal distension has become obvious. Lower abdominal pain, bloating and anorexia are common, but often insufficient to raise suspicion [3]. The CA 125 serum level is elevated in more than 80% of serous epithelial ovarian cancers. However, it is not a reliable diagnostic test, since it can also be elevated in a variety of benign gynecologic conditions (such as endometriosis, pelvic inflammatory disease, or pregnancy) and non-gynecologic malignancies (such as breast, lung, and gastrointestinal cancers). Transvaginal ultrasonography (TVU) is an important diagnostic tool in the evaluation of patients with a pelvic mass [4]. Computed tomography (CT) or magnetic resonance imaging (MRI) may sometimes be helpful in defining the extent of peritoneal disease in patients with suspected ovarian cancer. Chest radiographs may sometimes be performed to evaluate the presence of pleural effusions, which occur in 10% of patients with epithelial ovarian cancer at diagnosis [5]. However, there is currently no proven role for positron emission tomography (PET) in the diagnosis or subsequent follow-up of patients with ovarian cancer [6].

The majority of ovarian malignancies, 65% to 70%, are epithelial, with germ cell tumors (25%), sex cord stromal (5%), and metastases to the ovary (5%) accounting for the remainder. Serous tumors are most common, comprising 40% to 50% of epithelial tumors. Clinically, the mucinous tumors can be very large and can be associated with mucinous tumors of the appendix; therefore, appendectomy is recommended, particularly if the tumor is right-sided [7].

For both early- and advanced-stage ovarian cancer, surgery is the mainstay of diagnosis and initial treatment and this can be accomplished via laparotomy or via minimally invasive techniques (laparoscopy, robotic assistance). Upfront maximal cytoreduction with the goal of no residual disease should be undertaken, and when primary cytoreductive surgery is not possible, it should be considered after three to five cycles of chemotherapy in patients who do not have progressive disease [8].

Numerous studies suggest that patients with low-risk, low-grade, early-stage disease do not require adjuvant therapy after definitive surgery has been performed. However, this is a small percent of the women who present with epithelial ovarian cancer, and in all other women, surgery alone is not curative. Platinum compounds offer improved survival rates over non-platinum regimens [9].

Because of the unique intraperitoneal dissemination of epithelial ovarian cancer, there has been a significant interest in evaluating intraperitoneal administration of chemotherapy [10].

Regarding management of non-epithelial tumors pretreatment alpha fetoprotein (AFP) and B-human chorionic gonadotropin (B-hCG) levels are of particular importance in diagnosis and treatment. Variations in surgical management and adjuvant chemotherapy and radiation do exist among the non-epithelial tumors. Treatments should consider the patient's desire to maintain fertility while offering the greatest chance for cure [11].

METHODS

Study design and setting

In this retrospective study, thirty one female patients with history of ovarian cancer were studied for the variations in clinical presentations and for the assessment of the main risk factors of ovarian cancer.

These patients were seen in Alamal National Hospital for Cancer Management by many oncologists in this hospital in the period between September 2012 and June 2013 and this is the duration of this study.

Participants and data collection

The patients were diagnosed with ovarian cancer depending on the histopathological tests and the patients were subjected to different types of surgical intervention as part of the
management of their primary ovarian cancer and following surgery they were sent to the Al-Amal Hospital for further management and in this hospital the patients were properly staged to determine the need for adjuvant treatment.

Clinical parameters

Blood tests including (complete blood count, biochemical tests and tumor markers as CA 125, AFP and B-hCG) as well as radiological studies including ultrasound of abdomen and pelvis, CT scans of abdomen and pelvis and CXR. In our study the patients were evaluated depending on detailed history taking to outline the main risk factors for ovarian cancer including (age, marital status, menstrual history, parity, family history and the use of hormonal drugs), also the patients were evaluated depending on the presenting signs and symptoms, the presence of distant metastasis at time of diagnosis, the type of surgery for the primary tumor, histopathological diagnosis and the adjuvant treatment given for these patients following surgery.

Statistical analysis

The statistical analysis was performed using descriptive methods for normal distribution data by obtained frequencies, and percentage.

RESULTS

Socio-demographic variables

In our study, 31 female already diagnosed with ovarian cancer were studied for the presenting signs and symptoms and for the main risk factors for the development of ovarian cancer.

Age distribution in the studied group of patients was divided into 2 groups and the age limit was 50 years as shown in Table 1. Regarding menstrual history in the studied group of patients, the age of menarche for all patients was in the range of (11-14) years while only 1 patient had a history of irregular menstrual cycle. In the studied sample of patients, 10 patients are nullipara while the remaining are multipara, as shown in Table 2. Family history of ovarian cancer was positive in 3 patients in the study as shown in Table 3. The use of hormonal treatment in the form of contraceptive pills was found in 13 patients of the studied sample as shown in Table 4.

Ovarian cancer variables

The presenting signs and symptoms in the studied sample of patients were divided depending on history taken from the patients as shown in Table 5. In this study the number of patients that had metastasis at time of diagnosis was 17 as shown in Table 6. Depending on histopathological reports of the primary tumor of the studied sample of patients, different tumor types appeared as shown in Table 7.

Table 1: Age distribution in the studied group of patients.

| Age | No. of patients | %  |
|-----|----------------|----|
| < 50| 15             | 48.4%|
| ≥ 50| 16             | 51.6%|

Table 2: The parity status in the studied group of patients.

| Parity status | No. of patients | %  |
|---------------|-----------------|----|
| Nullipara     | 10              | 32.3%|
| Multipara     | 21              | 67.7%|

Table 3: Family history of ovarian cancer in the studied sample of patients.

| Family history | No. of patients | %  |
|----------------|-----------------|----|
| +ve            | 3               | 9.68%|
| -ve            | 28              | 90.32%|

Table 4: Hormonal drugs use in the studied sample of patients.

| Hormonal drugs | No. of patients | %  |
|----------------|-----------------|----|
| Used           | 13              | 41.9%|
| Not used       | 18              | 58.1%|

Table 5: The presenting signs and symptoms in the studied sample of patients.

| Presenting signs & symptoms | No. of patients | %  |
|-----------------------------|-----------------|----|
| Ascites                     | Present         | 14  | 45.2%|
|                             | Absent          | 17  | 54.8%|
| Pelvic mass                 | Present         | 10  | 32.3%|
|                             | Absent          | 21  | 67.7%|
| Vaginal bleeding            | Present         | 7   | 22.6%|
|                             | Absent          | 24  | 77.4%|
| Incidental diagnosis        | Present         | 16  | 51.6%|
|                             | Absent          | 15  | 48.4%|

Table 6: The presence of metastasis at time of diagnosis in the studied sample of patients.

| Metastatic disease | No. of patients | %  |
|--------------------|-----------------|----|
| Positive           | 17              | 54.8%|
| Negative           | 14              | 45.2%|

Table 7: Different histopathological types of the primary tumor.

| Histopathological type             | No. of patients | %  |
|-----------------------------------|-----------------|----|
| Serous cystadinnocarcinoma         | 15              | 48.4%|
| Endometrioid carcinoma             | 4               | 12.9%|
| Mucinous carcinoma                 | 4               | 12.9%|
| Germ cell tumor                    | 3               | 9.7%|
| Granulosa cell tumor               | 2               | 6.5%|
| Sex cord tumor                     | 1               | 3.2%|
| Clear cell carcinoma               | 1               | 3.2%|
| Fibrosarcoma                       | 1               | 3.2%|
DISCUSSION

This study was a retrospective study which mainly concentrated on the clinical presentation and main risk factors of ovarian cancer and in this study the age distribution for ovarian cancer was mainly in the age group of ≥ 50 years as there were sixteen patients (51.6%) in this age group and this result is consistent with a study conducted by Stephen C. and colleagues which stated that Ovarian cancer is primarily a disease of postmenopausal women, with the large majority of cases occurring in women between 50 and 75 years old [1].

Another study published in the National Cancer Intelligence Network which stated that the age-specific incidence rates rise steadily with age, peaking among women in their 70s and 80s. The numbers of cases are highest among women in their 60s and 70s, accounting for almost half the diagnoses [12].

Nulliparity was found to be a risk factor for the incidence of ovarian cancer in the studied group of patients as ten patients were nullipara (32.3%) and this result disagreed with a study done by Bristow et al. which stated that nulliparity is associated with an increased risk of ovarian cancer [13].

Three patients (9.68%) in this study had a family history of ovarian cancer, and this is inconsistent with a study conducted by Cook, 2002 which stated that Women with one first-degree relative with ovarian cancer have a 5 % lifetime risk and women with two or more first–degree relatives have a 7 % risk. The risk is greater for the sisters and daughters than for the mother [14]. Another study done by Risch et al. confirmed this result and it stated that after controlling for age, the strongest risk factor for ovarian cancer is a family history of ovarian cancer and the incidence of ovarian cancer attributable to genetic factors is estimated to be in the range of 5 to 10% [15].

The use of oral contraceptive pills is considered as a protective factor against the development of ovarian cancer and in our study eighteen patients (58.0 %) with ovarian cancer were not using contraceptive pills and this result is confirmed by a study conducted by Purdie et al. which stated that The association between female reproductive organ cancer and use of OCP has been studied for decades, with OCP consistently shown to reduce the risk of ovarian cancer. Ever use of OCP has been shown to decrease ovarian cancer risk by 40 to 50% compared with never use [16]. Another study which confirmed this issue was conducted by Schlesselman and colleagues and it stated that the risk of ovarian cancer is reduced by 40%, 53%, and 60% with oral contraceptive use for 4, 8, and 12 years, respectively [17].

Sixteen patients (51.6%) presented incidental diagnosis (dyspepsia, nausea, early satiety, bloating and constipation) and those considered as common presenting symptoms and this result is consistent with a study conducted by Yawn and colleagues which stated that bowel irritability and other nonspecific symptoms can be present for several months but do not trigger diagnostic evaluation until after the symptoms fail to clear with other medical therapy [18].

In the studied group, ten patients (32.3%) presented with pelvic mass and this result is consistent with a study published by the (ACOG Committee Opinion) which stated that detection of early-stage disease can occur by palpation of an asymptomatic adnexal mass on routine examination. However, most adnexal masses require moderate size for palpation. In premenopausal women, most of these masses are not malignant, and ovarian cancer represents fewer than 5% of adnexal neoplasm. An adnexal mass in a postmenopausal woman has a higher likelihood of malignancy [19].

Seven patients (22.6%) of the studied sample presented with vaginal bleeding and this presenting sign is confirmed by the result of a study conducted by Bankhead C. and colleagues which stated that abnormal vaginal bleeding (menorrhagia, missed or irregular periods, post-menopausal bleeding and post-coital bleeding) are associated with ovarian cancer [20].

Regarding ascites as a presenting sign, in this study, fourteen patients (45.2%) presented with this symptom at time of diagnosis and this result is consistent with a study done by DiSaia P. which stated that ascites is the most common presenting sign for ovarian cancer evidenced by a fluid wave or shifting dullness and is associated with advanced-stage disease. Ascites is suspected by clinical symptoms, such as increasing abdominal girth, or ultrasound results [21].

Epithelial type of ovarian cancer was the main type in the studied group of patients (81%) followed by germ cell tumor, granulosa cell tumor and then other less common types of ovarian cancers and this result is consistent with a study done by Scully and colleagues which stated that the majority of ovarian malignancies, 65% to 70%, are epithelial, with germ cell tumors (25%), sex cord stromal (5%), and metastases to the ovary (5%) accounting for the remainder [22].

In the studied sample, the serous type of ovarian cancer was the most common type accounting for 48.4% of the cases and this is consistent with a study conducted by Sugiyama and colleagues which stated that serous tumors are most common histological type of ovarian cancers, comprising 40% to 50% of epithelial tumors [23].
Metastatic ovarian cancer presented in seventeen patients (54.8%) who presented with advanced stage at time of diagnosis and this result is consistent with a study conducted by Jemal A. et al., which stated that metastatic ovarian cancer is a considerable public health problem in the United States, affecting more than 75% of the women with ovarian cancer at the time of diagnosis and by definition, such patients have tumors that have spread beyond the ovary itself, usually involving the pelvis and upper abdomen [24,25].

CONCLUSIONS

The incidence of ovarian cancer was mainly in the age group of ≥ 50 years. Nulliparity was found in (32.3%), thus, it was considered a risk factor for the development of ovarian cancer. The use of OCP is considered a protective factor against the development of ovarian cancer. Most of the cases presented in advanced stage at time of diagnosis as metastatic ovarian cancer. Epithelial tumors comprise the most common type of ovarian cancer and of which serous subtype considered the main subtype.

Recommendations

1. Encouraging women for continuous gynecologic evaluation for early detection of any ovarian tumor especially for patients with family history of ovarian cancer.

2. Encouraging women for child bearing as nulliparity is considered a risk factor for ovarian cancer.

Conflict of interest

There is no conflict of interest and this research has not been funded by any organization.

Acknowledgments

We would like to thank Dr. Rasha Khalil Al-Saad, Assistant Lecturer at the Faculty of Medicine, Misan University and Dr. Ahmed Salih AlShewered from the Misan Radiation Oncology Centre for their help.

REFERENCES

1. Pazdur R, Wagman LD, Camphausen KA, Hoskins JS (2010) Cancer management: A multidisciplinary approach. [12th Ed.], Chapter 13, CMP Media, NY, USA.

2. Schildkraut JM, Thompson WD (1988) Familial ovarian cancer: A population-based case control study. Am J Epidemiol 1988; 128(3): 456-466.

3. Jeffrey Tobias, Daniel Hochhauser (2010) Cancer and its management [6th Ed.], Gynaecological Cancer, John Wiley & Sons, Inc., NJ, USA, p. 312.

4. Bast RC Jr, Knapp RC (1985) Use of the CA 125 antigen in diagnosis and monitoring of ovarian carcinoma. Euro J Obstet Gynecol Reprod Biol 19(6): 354-356.

5. DeVita VT, Lawerence TS, Rosenberg SA (2008) Principles & Practice of Oncology [8th Ed.], Wolter Kluwer Health, Lippincott Williams & Wilkins, USA, p. 1573.

6. Markman M (2002) The use of PET scanning in ovarian cancer [comment]. Gynecol Oncol 85: 391; author reply 391.

7. Edward CH, Perez CA, Brady LW (2008) Principles and Practice of Radiation Oncology [5th Ed.], p. 1633.

8. Du Bois A, Quinn M, Thigpen T, et al. (2005) 2004 consensus statements on the management of ovarian cancer: final document of the 3rd International Gynecologic Cancer Intergroup Ovarian Cancer Consensus Conference (GCIG OCCC 2004). Ann Oncol 16(Suppl 8): viii7-viii12.

9. Chemotherapy in advanced ovarian cancer: an overview of randomised clinical trials. Advanced Ovarian Cancer Trialists Group. BMJ 1991 303(6807): 884-893.

10. Armstrong DK, Bundy B, Wenzel L, et al. (2006) Intraperitoneal cisplatin and paclitaxel in ovarian cancer. N Engl J Med 354(1): 34-43.

11. Gershenson DM, Morris M, Cangir A, Kavanagh JJ, Stringer CA, Edwards CL, et al. (1990) Treatment of malignant germ cell tumors of the ovary with bleomycin, etoposide, and cisplatin. J Clin Oncol 8(4): 715-720.

12. Overview of Ovarian Cancer in England: Incidence, Mortality and Survival, www.ncin.org.uk, November 2012.

13. Risk Factors for Ovarian Cancer: An Overview, Bristow et al., McLaughlin Centre for Population Health Risk Assessment, Institute of Population Health, University of Ottawa, 1996.

14. Cook J 2002. Family history of ovarian cancer. Curr Obstet Gynaecol 12(1): 47-51.

15. Risch HA, McLaughlin JR, Cole E, Bradley L, Kwan E, Narod SA, et.al. (2001) Prevalence and penetrance of germline BRCA1 and BRCA2 mutations in a population series of 649
women with ovarian cancer. Am J Hum Genet 68(3): 700-710.

16. Purdie D, Green A, Bain C, et al. (1995) Reproductive and other factors and risk of epithelial ovarian cancer: an Australian case-control study. Int J Cancer 62(6): 678-684.

17. Schlesselman JJ. (1995) Net effect of oral contraceptive use on the risk of cancer in women in the United States. Obstet Gynecol 85(S Pt 1): 793-801.

18. Yawn BP, Barrette BA and Wollan PC (2004) Ovarian cancer: the neglected diagnosis. Mayo Clin Proc 79(10): 1277-1282.

19. American College of Obstetricians anf Gynecologists. (2002) ACOG Committee Opinion: number 280, December 2002. The role of the generalist obstetrician-gynecologist in the early detection of ovarian cancer. Obstet Gynecol 100(6): 1413-1416.

20. Bankhead C, Collins C, Stokes-Lampard H, Rose P, Wilson S, Clements A, et al. (2008) Identifying symptoms of ovarian cancer: a qualitative and quantitative study. BJOG 115(8): 1008-1014.

21. DiSaia P (2002) Clinical gynecologic oncology. [6th Ed.], Harcourt International, London, UK.

22. Scully R, Young RH and Clement PB (1998) Tumors of the ovary, maldeveloped gonads, fallopian tube, and broad ligament. In: Atlas of tumor pathology, 3rd Series, fasc. 23. Armed Forces Institute of Pathology, WA, USA.

23. Sugiyama T, Kamura T, Kigawa J, Terakawa N, Kikuchi Y, Kita T, et al. (2000) Clinical characteristics of clear cell carcinoma of the ovary: a distinct histologic type with poor prognosis and resistance to platinum-based chemotherapy. Cancer 88(11): 2584-2589.

24. Jemal A, Thomas A, Murray T, Thun M (2002) Cancer statistics, 2002. CA Cancer J Clin. 52(1): 23-47.

25. Memarzadeh S, Berek JS (2001) Advances in the management of epithelial ovarian cancer. J Reprod Med 46(7): 621-629.

Copyright: Shukur RZ, et al. © 2019. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.