ORIGINAL ARTICLE

Identification of Common Risk Factors in Ovarian Cancer

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ABSTRACT

Objective: The objective of this study was to identify the common risk factors in ovarian cancer.
Methodology: This is the prospective study conducted in Lady Aitchison Hospital Lahore in one year duration. All patients admitted in hospital with signs and symptoms of ovarian tumor were included after clinical and ultrasonographical confirmation.
Results: Total 30 patients diagnosed with ovarian tumor were included in this study. Mean age of all the patients was 37.13±14.35 years. Out of these 30, 26 (86.7%) females were married while only 4 females were unmarried. The mean age of unmarried women was 22.50±11.78 years. Mean age of menarche was 12.20±0.92 years and mean years of ovulation was 22.33±12.22 years respectively. Among these 30 patients, 1(3.3%) patient had the problem of infertility. None of the patient had family history of ovarian and breast cancer tumor. Ovulation induction was done only in 2(6.7%) patients. No other problem was reported by any of the patients. There were total 11 patients whose parity was 0, in 5 patients it was 4, whilst in 4 patients it was 1. Among these patients 4 females were unmarried.
Conclusion: Ovarian tumor is one of the commonest reproductive cancers among women. The incidence of this disease is high in developing countries like Pakistan. In our study, middle aged (30-40 years) married women, with less numbers of parity were frequently reported in diagnosed patients. Factors like years of ovulation, age of menarche, infertility and ovulation induction were not considerably frequent.
Keywords: ovarian cancer, risk factors, smoking, infertility

INTRODUCTION

Ovarian cancer is the sixth most frequently occurring cancer among women worldwide with highest annual mortality rate compared to any other cancer of the female reproductive system[1]. The global incidence and prevalence rates of ovarian tumor are generally high but slightly varying geographically and in ethnic manners[2]. These differences in mortality and incidence figures can be primarily attributed to differences in genetic and epidemiologic risk factors. A high incidence of ovarian tumor has been reported in Northern Europe and the United States, whereas a low incidence is seen in Japan[3]. In Pakistan, very limited cancer data have been published that is quite insufficient to present any Incidence or prevalence rates. However, a survey was conducted for the period 1995–1997 from the population of the Karachi South district comprising than, a population of 1.7 million. Overall, 95.3% of the incident cases were microscopically verified. The reported incidence rates for all cancers combined were 80.5 per 100,000 (crude) and 136.7 per 100,000 (age- standardized rates [ASR]) for males and 91.8 (crude) and 163.2

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per 100,000 (ASR) for females. Whilst the age-standardized rates [ASR] for ovarian cancer was found to be 10.2[4].

Though the incidence rate of ovarian cancer is high, yet exact etiology of this problem is still unknown[5]. The mode of prognosis of ovarian cancer between early (I and II) and advanced stage (III and IV) is quite different. The mechanism of disease progression is also not well identified[6] but it is assumed that patients with advanced disease show a higher tendency for seeding of the abdominal cavity early during disease progression compared to those in early stage of disease. However if it would be theoretically true then patients would have smaller sized tumors during advanced stage of disease than patients with early stage[7].

A number of causative factors have been reported for development of ovarian cancer, however some established and more vulnerable factors include family history[8] of the disease and age[9] of patient. Also those women who have difficulty in becoming pregnant, or experience a normal menopause with hot flashes have high risk of developing the disease[10]. Additionally, postmenpausal hormone-replacement therapy, Infertility among nulliparous women and lifestyle features like cigarette, smoking and alcohol consumption have been reported to contribute in development of the

disease[11]. Some protective factors against ovarian cancer include parity, use of oral contraceptive, and oophorectomy, whilst incomplete pregnancies, Lactation, and surgeries such as hysterectomy and tubal ligation also play a protective role against ovarian cancer though it is weak. Many other factors are yet to be identified, for which aggressive research is required[12]. Recognizing the fact that the data available in Pakistan is scarce, we aimed to identify common risk factors of ovarian cancer in our study.

METHODOLOGY

This is a prospective study conducted in lady Aitchison hospital Lahore in one year duration. All the patients admitted in hospital with signs and symptoms of ovarian tumor were included after clinical and ultrasonographical confirmation.

RESULTS

Total 30 patients diagnosed with ovarian tumor were included in this study. Mean age of all the patients was 37.13±14.35 years. Out of these 30, 26(86.7%) females were married while only 4 females were unmarried. The mean age of unmarried women was 22.50±11.78 years. Mean age of menarche was 12.20±0.92 years and mean years of ovulation was 22.33±12.22 years respectively. Among these 30 patients, 1(3.3%) patient had the problem of infertility. None of the patient had family history of ovarian and breast cancer tumor. Ovulation induction was done only in 2(6.7%) patients. No other problem was reported by any of the patients. There were total 11 patients whose parity was 0, in 5 patients it was 4, whilst in 4 patients it was 1. Among these patients 4 females were unmarried.

DISCUSSION

Despite of the fact that the incidence of ovarian cancer is globally high, mostly this problem is diagnosed in advanced stages when the disease has spread intra abdominally[13]. About 80% of these females die ultimately due to recurrence of disease or failure of chemotherapy[14]. Not only the disease itself, but further complications associated with ovarian tumor like deep venous thrombosis and pulmonary embolisms are also aggravated and finally result in serious outcomes[15]. The advancements in treatment strategies and diagnostic methods have progressed with the course of time to reduce typical hazards and possibility of management failures in patients, though further advancement is yet to achieve. The International Ovarian Tumor Analysis (IOTA) collaboration has devised a standard diagnostic to the ultrasound description of adnexal pathology as

well[16]. However, the risk associated with this disease cannot be taken unconscientiously for final outcome in advanced diagnosis is mostly fatal. In a developing country like Pakistan, lack of awareness and cultural biases result in high incidence of ovarian tumor and that too, on late stages mostly. Identifying major risk factors can help diagnose this problem early that consequently may lessen deaths associated with ovarian tumor.

A number of risk factors have been reported to contribute in development of ovarian cancer, where some are yet to be identified[17]. Age has been proved to play a significant role as a risk factor, and in a study increasing age is reported to be significantly associated with rapid deaths versus less aggressive disease (RR, 1.09)[18].. Similarly, many other studies too, consider age to be a malicious factor in aggravation of the disease[19,20]. In our study, age of all the patients was 37.13±14.35 years whereas the mean age of unmarried women was 22.50±11.78 years. Also, the mean age of menarche was 12.20±0.92 years, the average years of ovulation were 22.33±12.22 years and only 1(3.3%) patient had the problem of infertility. The reproductive risk factors including these two factors of infertility and years for ovulation have debatable position in literature yet. Where some studies report these to be significantly associated with ovarian tumor, other have failed to establish any causative association of these[2,11,12]. Family history is evidently reported to play direct causative part for ovarian tumors [8, 21]; however, in our study none of the patients reported family history. Similarly, the role of parity has yet to be clearly identified, as in most of the studies no causative relation of this factor has been reported while In few, increasing number of parity has been published to be associated with less aggressive disease[8,18]. In our study, there were total 11 patients whose parity was 0, in 5 patients it was 4, whilst in 4 patients it was 1.

Early diagnosis and appropriate management strategies may lead to better health outcomes. Social factors like awareness, gender equality, health consideration and adaptation of latest diagnostic equipments are equally important to control the increasing incidence of the disease. Other factors like size of tumor, dietary and clinical dimensions also have an ample room for future researches to reveal further facts related to this lethal disease.

CONCLUSION

Ovarian tumor is one of the commonest reproductive cancers among women. The incidence of this disease is high in developing countries like Pakistan. In our study, middle aged (30-40 years) married

women, with less numbers of parity were frequently reported in diagnosed patients. Factors like years of ovulation, age of menarche, infertility and ovulation induction were not considerably frequent.

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