Original Article

Frequency of Ectopic Pregnancy in a Medical Centre, Kingdom of Saudi Arabia

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Abstract

Objective: To asses the frequency of ectopic pregnancy and to evaluate the relevance of the risk factors in a Medical Center, Kingdom of Saudi Arabia (KSA).

Methods: This retrospective study was done in Royal Commission Medical Centre, Yanbu Industrial City, KSA over a period of four years, where the medical records of patients with the diagnosis of ectopic pregnancy were reviewed. Data was collected on initial presentation, chief medical complaints, sociodemographic characteristics, past obstetrics and gynaecological history, history of previous surgeries (tubal, ovarian and/or uterine), history of infertility and use of ovulation induction and history of contraception was obtained. A total of 66 cases were included in the study.

Results: The frequency of ectopic pregnancy was 0.58% .Mean age was 30 ± 4 years. Multiparous women were found to be more prone to ectopic pregnancy (64%).Most frequent gestational age was 6-8 weeks. Majority (37.8%) of the patients had previous medical induced or spontaneous abortion. 18% had previous pelvic surgery, 15% used different treatments for infertility including ovulation induction, Intrauterine Insemination (IUI), and Invitro Fertilization (IVF) and 9% of patients had history of ectopic pregnancy, 4.5% of patients had Intrautrine Contraceptive Device (IUCD) in situ. 3% of patients had uterine fibroids.

Conclusion: Study has found that previous abortions are major etiological factor for ectopic pregnancy. Further more the other factors were IUCD use, previous pelvic surgeries, infertility, previous ectopic and induced conception cycles which may be the result of a previous pelvic infection that may cause tubal sequelae.

Keywords: Risk Factors, Ectopic Pregnancy, Saudi Arabia (JPMA 61:221; 2011).

Introduction

Ectopic pregnancy is the most life threatening emergency in pregnancy leading to maternal death.[1] The increase in its incidence and impairment in fertility that it causes are now real concerns. Several risk factors for ectopic pregnancy has been identified[2] including a history of pelvic inflammatory disease (PID), smoking at the time of conception, previous ectopic pregnancy, previous pelvic surgery, induction of ovulation and intrauterine device usage. An understanding of the risk factors for ectopic pregnancy assist in more rapid diagnosis and could result in reduction in the need for surgery and suggest actions to improve prognosis.

Though several studies assessing risk factors for ectopic pregnancy have been published from developed countries,[3] Saudi women have different characteristics (cultural, religious, sociodemographic, sexual behavior and beliefs and contraception practices) than women in developed countries . Therefore the risk factors for ectopic pregnancy may differ. This retrospective study was designed to asses frequency of ectopic pregnancy and to evaluate the relevance of the known risk factors in 4 years period in Royal Commission Medical Center, Yanbu industrial city, Kingdom of Saudi Arabia.

Patients and Methods

Retrospective analysis of case histories of patients admitted with the diagnosis of ectopic pregnancy was done at Royal Commission Medical Center (RCMC),Yanbu Industrial City, Kingdom of Saudi Arabia during the four year period from 1st January 2005 to 31ST December 2008.

Data was collected from medical record office, emergency room (ER) admission register, operation theatre record register and histopathology record register, regarding patients age, parity, gestational age, ectopic pregnancy risk factors like history of previous abortion, infertility treatment,current use of intrauterine contraceptive device (IUCD), history of previous tubal surgery (i.e. tubal ligation, sterilization reversal), history of appendectomy, ovarian cystectomy, adenexectomy, myomectomy, caesarean sections, appendicitis complicated by peritonitis, endometriosis, ovarian induction, or IVF procedure, uterine defects, previous ectopic and/or pelvic inflammatory disease. Duration of hospital stay was also recorded. The surgeries were performed by specialist/consultant in general gynaecology.

A woman experiencing several ectopic pregnancies during the study period generated multiple case enteries, one for each ectopic pregnancy (they were counted as one). In this study, 5 women experienced 2 ectopic and 1 woman experienced 3 ectopic pregnancies.

Majority of patients were admitted through emergency and few of them through out-patient department. After history and examination, provisional diagnosis was made. Relevant investigations included Complete blood picture (CP), blood group, Serum β-HCG and Ultrasound Pelvis. Other investigations done were Liver function test (LFT's), renal function test. Platelet count was done in those patients who were given Methotrexate.

Results

Out of total 11,286 deliveries at Obstetrics and Gynaecology Department of RCMC, Yanbu Industrial City, KSA, 66 presented with ectopic pregnancy during the specified study period of four years. The frequency of ectopic was found to be 1 in 171 deliveries that is 0.58%. The risk of ectopic increases progressively with increasing age. The mean age of women was 30 ± 4 years and only 7% (n=5) were more than 40 years old. Twenty four percent (n=16) were primigravida. Multiiparous women found to be more prone to ectopic pregnancy were 64% (n=42). The gestational age ranged between 4-12 weeks and the most frequent gestational age was around 6-8 weeks, 2 patients were more than 12 weeks of gestation. Eighty seven percent (n=58) had some risk factors, 37% (n=25) had previous spontaneous and medical induced abortions (Table). Fifteen percent (n=10) conceived after different methods of assisted reproductive techniques including IUI,IVF gonadotrophin injections and Oral Clomiphene treatment. Three patient had history of use of IUCD, while 18% (n=12) had previous pelvic surgery in the form of caesarean sections, laparotomy for twisted ovarian cyst (n=1), ectopic pregnancy (n=6) and appendicitis(1). One patient was operated twice for ectopic pregnancy, two patients had Fibroid uterus.Mean duration of admission was 3-7 days.

Table: Risk factors of ectopic pregnancy.

Risk factors	No.	%
Previous abortions	25	37.8%
IUCD in situ	3	4.5%
Recurrent ectopic	6	9%
Previous pelvic surgery	12	18%
Infertility treatment	10	15%
Fibroid uterus	2	3%

Discussion

The frequency of ectopic pregnancy in this series was 0.58% which is comparable to other studies done in

Saudi Arabia[4,5] and India[6] but is comparatively low as compared to other studies[7,8] in Pakistan. In the present study we found that the risk of ectopic pregnancy increases progressively with maternal age and parity. Manjhi et al[6] showed increased risk of ectopic pregnancy in primigravida which is conflicting with the results of our study. Age has long been suspected to play a role in ectopic pregnancy risk but studies has provided conflicting results.[2,6,9] Bouyer study[3] showed that age plays an important role and increases the probability of exposure to other risk factors. Aging may result in progressive loss of myoelectrical activity along the fallopian tubes. Age related changes in tubal function and tubal diverticula which increases with age, predisposes patient to ectopic pregnancy.[10,11]

The results of our study were comparable with other studies[12] which showed that the risk of ectopic pregnancy increases in women with three or more spontaneous abortions. Bouyer et al[3] found that the risk of ectopic pregnancy was higher only for women who underwent medical induced abortions, they did not find any association for surgical abortion. They interpreted the association as the consequence of infection after abortion, as systemic antibiotic prophylaxis is more routinely given in cases of surgical abortions, whereas such prophylaxis is not given in cases of medical abortions.[3,13]

The result of present study showed a strong relation between previous ectopic pregnancy and ectopic pregnancy. They are in agreement with results of other studies which demonstrated an elevated risk among women with history of prior ectopic pregnancy.[14,15]

Previous caesarean section was found to be associated with the risk of ectopic pregnancy in the present study, Mollison et al in his study[12] examining the relationship between prior mode of delivery and subsequent pregnancy found that women who delivered by caesarean section were less likely to become pregnant again compared with those who had spontaneous delivery and when these women become pregnant again compared with those who had spontaneous vaginal delivery, they were more likely to have ectopic pregnancy than others.[12,16] The underlying mechanism for this association is unclear and may relate to increased risk of pelvic infections and adhesions after caesarean section. Studies1[4,17,18] showed that the association between pelvic surgery like appendectomy or prior tubal surgery and ectopic pregnancy may be explained by peritoneal and peritubal adhesions that occur following these surgeries. Risk of ectopic pregnancy increased 2.5-23 fold in patient with history of infertility.[2,6,17,19] Whereas one study showed conflicting results.[15]

Another important risk factor in causation of ectopic pregnancy; fibrid uterus, was present in 3% (n=2) of our patients. Fibroid uterus causes this by distorting uterine anatomy especially if it is blocking cornual ends of uterus.

Several studies showed[3,20] that the risk of ectopic pregnancy increased with the infertility and its duration. The findings of the present study on induced conception cycle are consistent with those reported previously.[17,21] In contrast Oelsner et al[22] found that the cause of ectopic pregnancy treated with gonadotrophins lies in the patients, probable additional underlying tubal disease, and not in the drug.

Current intrauterine device (IUCD) usage was also found to be associated with the risk of ctopic pregnancy in the present study. A meta-analysis found that women becoming pregnant while currently using an IUCD are at increased risk. Bouyer et.al[23] found that IUCD usage itself may have an aetiological role in ectopic pregnancy. IUCD's decrease the risk of both intrauterine and extrauterine pregnancy. Women using an IUCD have a lower risk of ectopic pregnancy than those not using a device. IUCD prevents intrauterine pregnancy than extrauterine pregnancy. This accounts for most of the higher number of ectopic pregnancy for IUCD users when compared with new users.[24-26]

The present study has some limitations. An important limitation of the study was that no control group was assigned so results cannot be compared. Being a retrospective study some of the important information regarding past gynaecological history of lower abdominal pain and chronic vaginal discharge, which are usual presentations of pelvic inflammatory disease, smoking habit, use and frequency of vaginal douches, detailed history of contraceptive methods used, were missing.

This study found that prior spontaneous and medical induced abortions are the major etiological factor for ectopic pregnancy. Further more other factors that were found to be associated were previous pelvic surgery, prior ectopic pregnancy and infertility history and induced conception cycles, may be the result of previous pelvic infection with tubal sequelae.

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