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Research Article

### ANALYSIS OF RISK FACTORS OF ECTOPIC GESTATIONS IN PAKISTAN

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**Abstract:**

**Introduction:** Ectopic pregnancy is defined as a pregnancy that occurs outside of the uterine cavity. The most common site of ectopic pregnancy is the fallopian tube. Most cases of tubal ectopic pregnancy that are detected early can be treated successfully either with minimally invasive surgery or with medical management using methotrexate. **Aims and objectives:** The basic aim of the study is to analyze the risk factors of ectopic gestations in Pakistan. **Material and methods:** This cross sectional study was conducted in Baqai Medical Univeristy, Karachi during September 2018 to December 2018. The data was collected through a survey analysis in which we find the Sociodemographic status of female patients. The detailed history of pregnancy were collected from hospital data. We find the risk factors of ectopic pregnancies among local population of Pakistan. To evaluate the association between ectopic pregnancy and 22 potential risk factors, we conducted a population-based case-control study. **Results:** The data were collected from 74 pregnant females. The patient had an emergency laparotomy with macromolecular resuscitation, blood products transfusion, and intravenous antibiotic therapy. Peroperative exploration has found haemoperitoneum of great abundance. The right fallopian tube had an ampullary hematosalpinx of 3 cm of long and the left fallopian was an isthmic ruptured of ectopic pregnancy with scraps inside. **Conclusion:** It is concluded that by identifying risk factors being amenable to modification, such as cigarette smoking, the effective risk-reduction strategies can be devised. Additional studies are needed to be performed on hormonal and immunologic factors possibly involved in EP.

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**INTRODUCTION:**

Ectopic pregnancy is defined as a pregnancy that occurs outside of the uterine cavity. The most common site of ectopic pregnancy is the fallopian tube. Most cases of tubal ectopic pregnancy that are detected early can be treated successfully either with minimally invasive surgery or with medical management using methotrexate. However, tubal ectopic pregnancy in an unstable patient is a medical emergency that requires prompt surgical intervention [1].

The incidence of ectopic pregnancy is 1–2% in the United States. Since the 1980's, there has been a significant decline in mortality, decreasing from 1.15 deaths per 100,000 between 1980–1984 to 0.50 deaths per 100,000 between 2003–2007 [2]. Despite this decrease, ectopic pregnancy is still a leading cause of morbidity and mortality and there remains a racial disparity, with a higher mortality rate for African American women [3]. While there are a greater percentage of women treated medically as compared to surgically, one must remain mindful of both the advantages and limitations of medical and surgical management of ectopic pregnancy and when it is appropriate to use a specific treatment. Medical management may not always be the optimal choice for a particular patient [4].

The fallopian tube is the most common location of ectopic implantation, accounting for more than 90% of cases. However, implantation in the abdomen (1%), cervix (1%), ovary (1–3%), and cesarean scar (1–3%) can occur and often results in greater morbidity because of delayed diagnosis and treatment [5]. An ectopic pregnancy also can co-occur with an intrauterine pregnancy, a condition known as heterotopic pregnancy. The risk of heterotopic pregnancy among women with a naturally achieved pregnancy is estimated to range from 1 in 4,000 to 1 in 30,000, whereas the risk among women who have undergone in vitro fertilization is estimated to be as high as 1 in 100 [6].

**Aims and objectives**

The basic aim of the study is to analyze the risk factors of ectopic gestations in Pakistan.

**MATERIAL AND METHODS:**

This cross sectional study was conducted in Baqai Medical Univeristy, Karachi during September 2018 to December 2018. The data was collected through a survey analysis in which we find the Sociodemographic status of female patients. The detailed history of pregnancy were collected from hospital data. We find the risk factors of ectopic pregnancies among local population of Pakistan. To evaluate the association between ectopic pregnancy and 22 potential risk factors, we conducted a population-based case-control study. The investigation included 74 cases diagnosed. Univariate matched analyses revealed nine variables associated with a significantly elevated relative risk of ectopic pregnancy.

**Statistical analysis**

Student's t-test was performed to evaluate the differences in roughness between groups. Two-way ANOVA was performed to study the contributions. A chi-square test was used to examine the difference in the distribution of the fracture modes (SPSS 19.0 for Windows, SPSS Inc., USA).

**RESULTS:**

The data were collected from 74 pregnant females. The patient had an emergency laparotomy with macromolecular resuscitation, blood products transfusion, and intravenous antibiotic therapy. Peroperative exploration has found haemoperitoneum of great abundance. The right fallopian tube had an ampullary hematosalpinx of 3 cm of long and the left fallopian was an isthmic ruptured of ectopic pregnancy with scraps inside (table 1). The diagnosis of bilateral ectopic gestation was made. A bilateral salpingectomy was then performed. Histological analysis has concluded to the same diagnosis. Counseling has been done to the couple on the necessity to resort to medical help of procreation in case of future need of child.

**Table 1:** Distribution of the site, location and direction of EP

Variable	(%)
Site of EP	
Fimbrial	16 (19.3)
Isthmic	8 (9.6)
Ampullary	52 (62.7)
Ovarian	4 (4.8)
Interstitial	1 (1.2)
NA*	2 (2.4)
EP location	
Tubal	77 (92.8)
Ovarian	4 (4.8)
NA*	2 (2.4)
Direction of EP	
Right	51 (61.4)
Left	29 (34.9)
NA*	3 (3.6)

EP=Ectopic pregnancy; \*NA=Not available

**DISCUSSION:**

Similar to other studies, we found that, among all the possible risk factors of EP, the strongest evidence is for an association between previous EP and sequent EP. According to our results, the risk of EP was almost 17 times higher for women who had prior EP compared to controls (OR = 17.165, 95% CI = 1.89–155.67). Barnhart *et al.* indicated that the risk of facing a repeat EP increases intensely with the number of prior EP (OR = 2.98 for one prior EP and OR = 16.04 for 2 or more) [7].

According to our results, among contraceptive methods only after use of IUD, there was a 4-5 fold increased risk of a subsequent EP. Early studies on risk factors of EP indicated that OR greater than one belonged to current IUD use [8]. Although the exact mechanism by which implantation is occurring outside the uterus is not well understood, it is thought that IUD-induced inflammation may result in deciliation of the endosalpinx and then delays ovum transport, which leads to EP [9].

In addition, other influencing factors associated with decreasing risk of EP are the displacement of the IUD and use of anti-inflammatory drugs including paracetamol or aspirin before the pregnancy. In our

study, we didn't evaluate the impact of these variables [10].

**CONCLUSION:**

It is concluded that by identifying risk factors being amenable to modification, such as cigarette smoking, the effective risk-reduction strategies can be devised. Additional studies are needed to be performed on hormonal and immunologic factors possibly involved in EP.

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