Risk Factors of Missed Abortion in Thi-Qar City (Province of Iraq)

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Abstract

A missed abortion (MA) is a particular kind of miscarriage and refers to a fetnatural or embryonic abortion. It can cause endometrial damage, coagulation issues, depression, and anxiety in the mother. Missed abortions have several etiologic causes that have been found, including parental chromosomal abnormalities, immunological variables, endocrine problems, uterine abnormalities, inherited thrombophilia, infections, and environmental factors. This research aims to estimate the percentage of risk factors for missed abortions in Thi-Qar City, especially recurrent missed abortions. A retrospective study was conducted in the Obstetrics and Gynecology department of Bint Alhuda Teaching Hospital in Thi-Qar city. The data is collected by using a questionnaire from patients. The result revealed that about 38 (44.7%) women have a history of previous abortion, with missed miscarriage contributing to 47.4% of these abortions. About 21.7% of the cases have a previous history of missed abortion. In this study, we found that several factors affect or are related to missed abortion.

Index Terms

Missed abortion, Risk factors, Thi-Qar

I. INTRODUCTION

An abortion is the loss of a pregnancy before 20 weeks of gestation. Missed abortion (MA), commonly referred to as silent miscarriage, typically happens when an embryo or foetus dies, but the body continues to secrete hormones despite the pregnancy loss [1]. This relatively common complication affects about 15% of all clinically diagnosed pregnancies [2].

Women and their spouses experience distress after losing a pregnancy, which has a negative impact on their social and psychological wellness [3]. The majority (50.0%) of spontaneous miscarriages are thought to be caused by chromosomal defects, although the other 50.0% may be avoidable and linked to environmental factors [4].

Although the pathophysiology of MA is not fully known, it is generally accepted that the interaction of several factors may result in this. The most significant recognised genetic contributing factor to MA is chromosomal abnormalities, or the number of chromosomes or structural abnormalities of the chromosomes [5]. Atypical intrauterine environment, immunological dysfunction, endocrine problems, excessive smoking, severe systemic infections, dietary deficiencies, environmental toxins, and trauma are some of the additional risk factors for MA [6–8].

This study aims to estimate the percentages of risk factors for missed abortion in Thi-Qar city (age, consanguinity, family history, parity, chronic medical illness, history of H Mole, ectopic

pregnancy, smoking, and alcohol) and especially recurrent missed abortion among the study groups.

II. METHODS

A retrospective study was conducted in the Obstetrics and Gynaecology department of Bint Alhuda Teaching Hospital in Thi-Qar City during 2020–2021. The cases included women diagnosed as having missed miscarriage based on the missed miscarriage case definition, which provided that all participants were incident cases. A missed miscarriage is usually diagnosed during a routine check-up when the blood B-hCG fails to increase as expected or when on ultrasound there is either no embryo (blighted ovum) or when there is an embryo or foetus with a crown-rump length of more than 5 mm without cardiac activity.

The data is collected by using a questionnaire. The questionnaire is filled in by taking the information from the patient. The information obtained includes the following:

Age, gravidity, relative, previous abortion, hydatiform mole history, ectopic pregnancy, smoking, alcohol, occupation, a previous baby with a congenital anomaly, Immune diseases such as antiphospholipid syndrome or SLE, gestational age, Diabetes and thyroid disease, heart disease, family history, and genetic testing

The collected data was checked for its completeness, entered, edited, cleaned, and analysed by the available computer software facility of Microsoft Office Excel.

The percentage of risk factors for missed abortion was calculated as [total number of patients with missed abortion and how to have a history of previous missed abortion/total number of missed abortions included during the study period]*100.

III. RESULTS

The total number of missed abortions during the study period in Bint-Alhuda Teaching Hospital was 85. Around 24 percent (28.2%) of women with missed abortions are between the ages of 35 and 39, which is the most common age group. Table 1.

It is found that 22 (25.8%) women have a family history of abortion. About 5 (5.8%) have a history of hypertension, and 3 (3.5%) have a history of DM. About 38 (44.7%) women have a history of previous abortion, where missed miscarriage contributes to 47.4% of these abortions. Only 2 (28.2%) cases underwent genetic study—table 2.

The results also show that 24 (28.23%) of the women were relatives—Figure 1; and about 21.7% of the total cases had a previous history of missed abortion—Figure 2.

Table 1 : Distribution of Study Group According to Age Group (N=85)

Maternal Risk factor		No	%
Age group	< 20	11	13%
	20 -24	13	15.20%
	25-29	18	12.10%
	30- 34	13	15.20%
	35-39	24	28.20%
	>40	6	7%
	Mean	30	

Table 2 : Distribution of Study Group According to Maternal Risk Factor

Family history of abortion		22	25.80%
Previous History of abortion	Missed abortion	18	21.70%
	None missed	20	23.50%
Gestational age	1st trimester	62	72.94%
	2nd trimester	23	27.05%
Relative couples	Yes	24	28.20%
	No	61	71.20%
Diabetes		3	3.52%
Hypertension		5	5.88%
Anti phospholipids		2	2.35%
Fetal congenital anomalies		3	3.52%
Women do genetic study		2	2.35%

Table 3 : Distribution of study group according to Parity and gravida

Parity	0	22	25.90%
	1	11	12.90%
	2	14	16.50%
	3	12	14.10%
	4+	26	32%
Gravida	1	14	16.40%
	2	12	14.20%
	3	13	15.30%
	4+	46	55.20%

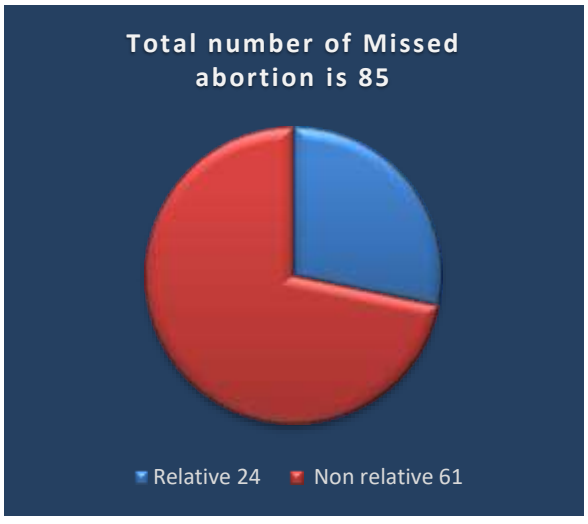

Figure 1 : Distribution of Study Group According to Percentage of Relative

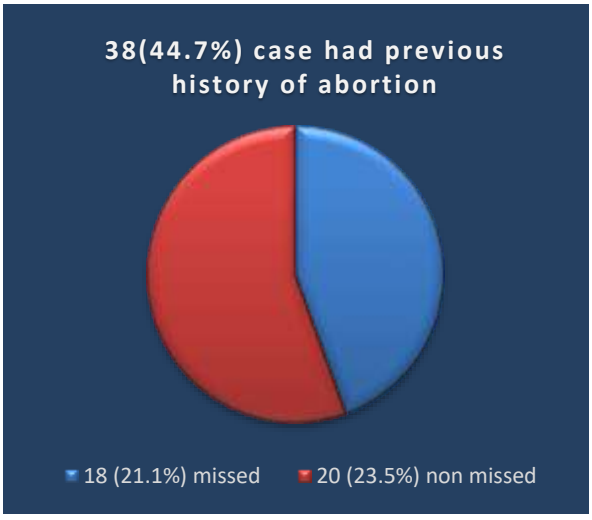

Figure 2 : Percentage of previous missed abortion and non missed

IV. DISCUSSION

One of the most frequent causes of early pregnancy loss is missed abortion, and there are several explanations for why these pregnancies fail. As was discovered in this study, age is one of several critical characteristics that affect or are associated with missed abortion. The current study results show that the case group (35–39) had a statistically more significant average age (28.1%) than the other age groups, indicating that age is a risk factor for MA. This information supported earlier research [9–11] findings that showed that age was significantly correlated with the prevalence of MA. This may be due to the declining egg quality and decreased uterine function in older pregnant ovaries and a reduction in uterine function, declining in the egg quality, which in turn causes chromosomal changes [10,11].

The villi chromosomal abnormality rate has nothing to do with the incidence of missed abortions, and pregnant women over the age of 35 are at an increased risk for the villi chromosomal abnormality [12]. Chromosome abnormality is a significant contributor to missed abortions.

The greater rate of missed miscarriages associated with older maternal age may help to explain this outcome. According to Gleicher et al. (2011) [13], the mother's age is a significant risk factor for missed miscarriage, and miscarriage rates rise consistently with age, with more significant increases beyond age 35. The current study supports these findings. This data was explained by Branch et al. (2010) [14]. They noted that older oocytes and an increased aneuploidy rate are associated with older maternal age and a higher chance of missed miscarriage.

Additionally, we discovered a rise in missed abortion cases among women with high parity, with 32% of instances occurring in those with Para 4 and higher. According to a recent study (Cohain et al., 2017), the rate of miscarriage rises with women's parity. In contrast to other studies, they discovered that the proportion of miscarriages identified by the registry among nulliparous women (43.7 percent in 1998 and 49.6 percent in 2016) was higher than the proportions among women who had previously given birth to one child or more (26.4 percent in 1998 and 26.7 percent in 2016). (29.8 percent in 1998, 23.8 percent in 2016). Thus, when parous and nulliparous women are compared, nulliparous women accounted for less than half of all miscarriages detected by the registry [15].

Given that 25.8% of couples have a history of abortion and 28% are related couples, genetics may impact missed abortions. In 2 (28.2%) cases that received genetic testing, 45XO was found in both. This indicates that missed abortions are strongly correlated with genetic abnormalities.

As we observed that 23% of them have a history of missed abortion and 27% have a history of prior abortion in general, these risk factors may be present. The Royal College of Obstetricians and Gynaecologists, 2007 [16], supported this finding by stating that couples who have already experienced a miscarriage are at a higher risk of experiencing another one. Women who have already experienced a miscarriage have a 25% chance of experiencing another one in the future.

The degree of metabolic control in early pregnancy is connected to an increased risk of spontaneous abortion and significant congenital malformations in women with type 1 diabetes. We also discovered that 4% of cases had a history of endocrine illnesses, such as diabetes mellitus. The current study supports the findings of Ramin et al. (2010) [17], who found that women with diabetes mellitus have a significantly higher risk of miscarriage and embryopathy than women without the condition. This finding suggests that strict glucose and/or insulin control is crucial for healthy embryo development.

Numerous blood coagulation abnormalities have been linked to an increased venous and arterial thrombosis risk. Only the antiphospholipid antibody syndrome, of which 2 percent have a history, has consistently been significantly linked to an elevated risk of early spontaneous miscarriage among thrombophilia [18]. The current investigation results are consistent with those of Cunningham et al. (2010) [19]. They discovered that certain genetic blood coagulation problems might raise the chance of both arterial and venous thrombosis and missed miscarriage.

Other factors in our questionnaire, such as the history of hydatiform mole, ectopic pregnancy, smoking, and alcohol, were negative and did not register in the tables.

The study's limitations include the inability to collect enough samples due to the coronavirus pandemic. In addition, the information was difficult to obtain due to the nature of society in Thi-Qar and the lack of previous studies on this subject in Thi-Qar city.

V. CONCLUSIONS

Through our research, we were able to discover several factors that can affect miscarriage, the most important of which is the increase in age. Also, we found an increase in missed abortion cases among women with high parity. Other factors that play a role include family history and a history of previous abortions; whether the couples are related or not; and the presence of chronic diseases.

VI. RECOMMENDATIONS

In the future, we need a large study to assess these risk factors and other factors that may play a role in missed abortions. We need a genetic centre in the Thi-Qar government to assess chromosomal abnormalities in women who have had abortions more accurately.

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