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RESEARCH ARTICLE
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FREQUENCY OF MOLAR PREGNANCY IN WOMEN WITH MISCARRIAGE

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ABSTRACT

Background: Molar pregnancy is a very uncommon condition in pregnancy that is characterized by abnormal trophoblast growth. It is also called the hydatidiform mole (HM). HMs are a type of gestational trophoblastic disease. There are two types of hydatidiform moles which are partial hydatidiform moles (PHM) and complete hydatidiform moles (CHM). They can both be differentiated by their genetics and biology. The progression rate to gestational trophoblastic neoplasia of partial hydatidiform moles is lower than that of complete hydatidiform moles. The progression rate of PHM is 5%, while the progression rate of CHM is from 15% to 20%.

Objective: The goal of the study is to increase the detection and treatment of molar pregnancy, particularly in areas with limited resources.

Study design: A cross-sectional study

Place and Duration: This study was conducted in Al Nafees Medical College and Hospital Islamabad from May 2022 to May 2023.

Methodology: All of the women included in this research were those who had a history of miscarriage. All of the participants were aged between 18 and 45 years. A pre-designed performa was used to gather data related to gestational age, parity, and age. A consultant ultrasonologist who had at least 5 years of experience had the responsibility of performing trans-abdominal ultrasound scanning.

Results: There were a total of 180 women enrolled in this research. The average age calculated was 28.7 years. The average height calculated was 1.56 meters. The average weight was 68.2 kg. There were 179 patients who did not have a molar pregnancy, while only one patient had a molar

pregnancy. There was no significant relationship between family history, age, parity, previous molar pregnancy, BMI, and gestational age.
Conclusion: We concluded that the occurrence of molar pregnancy in females with miscarriage is very rare.

Keywords: miscarriage, molar pregnancy. Hydatidiform, placenta, ultrasound

INTRODUCTION

A very rare issue in pregnancy that is marked by the abnormal growth of placenta-forming trophoblasts is called molar pregnancy [1]. It is also called the hydatidiform mole (HM). HMs are a type of gestational trophoblastic disease [2]. Anomalies in the placenta serve as a histological marker for various disorders. The placentas have chorionic villi with several degrees of oedema of the villous stroma and degrees of trophoblastic development [3]. There are two types of hydatidiform moles which are partial hydatidiform moles (PHM) and complete hydatidiform moles (CHM). They can both be differentiated by their genetics and biology [4].
The progression rate to gestational trophoblastic neoplasia of partial hydatidiform moles is lower than that of complete hydatidiform moles. The progression rate of PHM is 5%, while the progression rate of CHM is from 15% to 20% [5]. A CHM is commonly known to be diploid. Nevertheless, there is an occurrence of androgenic and tetraploid pregnancies [6]. The extra haploid set of chromosomes in paternal PHM comes from the father. In order to identify the mole's recurrence during therapy, the most commonly used methods are clinical indications and serum hCG levels [7]. Molar pregnancies differ in prevalence from one area to another.
The rate of occurrence is at a high level in under-developed countries. It is reported that the rate of occurrence is highest in females who are below 20 years old and above 40 years old [8]. Mostly, it is well known that females who are infertile do not get enough protein, vitamins, folic acid, and other nutrients, and those who belong to ab low socioeconomic class suffer from this condition [9]. As age increases, the risk of gestational trophoblastic disease increases. It also increases with the increase in abortive or failed pregnancies [10].
The aim of this research is to identify and examine the prevalence of molar pregnancy in those patients who have faced miscarriage. The goal of the study is to increase the detection and treatment of molar pregnancy, particularly in areas with limited resources.

METHODOLOGY

OpenEpi software was used to identify the sample size, and a non-probability consecutive sampling method was used to select the participants for this study. The occurrence of molar pregnancy in females with miscarriage was reported to be 13.3%, which was used in determining the sample size. The CI was 95%. All of the women included in this research had a history of miscarriage. All of the participants were aged between 18 and 45 years. Every patient was informed about the research, and their written consent was obtained.

A pre-designed questionnaire was used to gather data related to gestational age, parity, and age. A consultant sonologist, who had at least 5 years of experience, had the responsibility of performing transabdominal ultrasound scanning. SPSS version 22 was used to analyze the data. The height, age, body mass index, weight, gestational age, and parity were expressed in terms of standard deviation and mean. Previous molar pregnancy, parity, and family history of molar pregnancy were expressed in terms of percentage and frequency. Stratification was used to control the effect modifiers like body mass index, age, parity, previous molar pregnancy, gestational age, and family history of molar pregnancy. A Chi-square test was applied. A significant p-value was considered to be less than 0.05.

Exclusion criteria: Those females who were examined through ultrasound and had experienced multiple pregnancies were not a part of this research.

RESULTS

There were a total of 180 women enrolled in this research. The average age calculated was 28.7 years. The average height calculated was 1.56 meters. The average weight was 68.2 kg. Previous molar pregnancy was noted in 65 (36.5%) patients, and 33 (18.5%) patients had a positive family history of molar pregnancy. (As shown in Table 1) Molar pregnancy was found to be in only 01 (0.5%) patient (As shown in Table 2)

Table No. 1: Average values of the demographic characteristics of the participants

Characteristics	Average
Age (years)	28.7
Parity	2.4
Gestational Age (weeks)	11.2
Body Mass Index (kg/m2)	27.1
Family history of molar pregnancy	33
Previous molar pregnancy	65

Table number 2 shows the frequency of molar pregnancy in the sample size.

Table No. 2: Frequency of molar pregnancy in the study population

Molar pregnancy	N	%
No	179	99.4
Yes	1	0.6

In order to detect statistical differences, stratification of age group, body mass index, parity, gestational age, prior molar pregnancy, and family history of molar pregnancy was done with respect to molar pregnancy. Age, BMI, parity, gestational age, previous molar pregnancy, and family history were not shown to be significantly associated. (As shown in Table 3)

Table No. 3: Stratification of molar pregnancy with clinical and demographic characteristics.

Parameters	Molar pregnancy (N)	No molar pregnancy (N)
Age		
● 18 to 30 years	1	110
● More than 30 years	0	69
Parity		
● 0 to 2	0	85
● More than 2	1	94
Family history		
● Positive	0	34
● Negative	1	145
BMI		
● 18 to 24	0	92
● More than 24	1	87
Gestational age		
● 5 to 10	0	50
● More than 10	1	129
Previous molar pregnancy		
● Yes	1	65
● No	0	114

DISCUSSION

There was only a single case of molar pregnancy identified in our research, and the rest of the 179 participants were free from it. The average age of the women in our research was 28.7 years.

Similarly, there was research conducted by Alsibiani et al., who reported an average age of 33.7 years, while the research of Riadh BT et al. showed an average age of 32.2 years [11, 12]. If we talk about the occurrence of molar pregnancy, our study reported it to be 0.6 percent. However, there were some researchers who had a prevalence of more than this [13]. The research of Sebire NJ et al. reported a prevalence of 13.3%, which is different from our research [14].

In our study, we observed insignificant differences in age groups (P = 0.618), parity (P = 0.528), body mass index (P = 0.489), prior molar pregnancy (P = 0.365), gestational age (P = 0.725), or family history of molar pregnancy (P = 0.815) when stratifying confounding factors or effect modifiers in relation to molar pregnancy.

Histological criteria and the degree of trophoblastic development and swelling in the villous stroma are used to diagnose HMs [15]. Based on biological and genetic characteristics, they are divided into two groups: complete hydatidiform moles (CHMs) and partial hydatidiform moles (PHMs). Because of their potential impact on women's health, these moles, which are regarded as a premalignant form of gestational trophoblastic neoplasia, have clinical and epidemiological significance.

Hydatidiform moles are abnormal pregnancies with vesicular enlargement of placental villi and different levels of trophoblastic growth in the absence or abnormal production of a foetus or embryo [16, 17]. Based on morphology and cytogenetics, two hydatidiform mole syndromes were defined. Complete hydatidiform moles are characterized by early growth of hydatidiform villi without a visible foetus or embryo, long-lasting hyperplastic trophoblast with varying degrees of atypia, and the lack of capillaries in the villi. In an incomplete hydatidiform mole, there might be identifiable fetal residues.

Obstetricians and gynecologists treat miscarriages throughout the first three months of pregnancy [18, 19]. This early stage, known as the first trimester of clinical pregnancy, is till 13 weeks of gestation. Previously, the standard treatment for recurrent losses included uterine evacuation to remove retained products of conception. However, advances in diagnostic and therapeutic processes have turned towards improved outpatient management in recent years, resulting in improved outcomes. Researchers used 24-chromosome SNP microarray testing in a retrospective investigation of 26,101 recurrent miscarriages. Through ultrasonography and/or histology, they observed a higher occurrence of molar pregnancy than expected [20].

There were certain limitations to this research. The limitations include a small sample size, which resulted in only one molar pregnancy case.

CONCLUSION

We concluded that the occurrence of molar pregnancy in females with miscarriage is very rare.

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