FREQUENCY OF MOLAR PREGNANCY AND ITS CONTRIBUTING FACTORS AMONG PREGNANT WOMEN COMING TO TERTIARY CARE HOSPITALS OF LAHORE

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ABSTRACT

Objectives: To determine the incidence of molar pregnancies among women who give birth at Jinnah Hospital in Lahore and to determine various risk factors for molar pregnancy.

Methods: The research method was a cross-sectional analysis. It occurred in Jinnah Hospital's obstetrics and Gynaecology department in Lahore. The research was conducted over the course of six months, from March 6, 2021, to December 2, 2021. 145 people were enrolled in the research. A transvaginal ultrasound was performed on all of the patients, and molar pregnancy and its associated dangers were documented.

Results: Mean age of the patients was 30.8±6.6 years; mean gestational age was 13.3±2.3 week. Majority were multigravida 87 (60%) while 58 (40%) were primigravida. Molar pregnancy was found in 10 cases (6.9%). With advanced maternal age 21% with molar pregnancy, whereas history of previous miscarriage and use of oral contraceptive pills was present in 69.2% and 23% of females with molar pregnancy respectively.

Conclusion: High mother age (over 35), prior early pregnancy abortions, OC usage, rhesus blood type, and family history all contributed risk factors. Molar pregnancies were more common in women who were further along in their pregnancies, had higher beta hcg levels, or had a positive family history.

Key Words: Molar pregnancy, Hydatidiform mole, Gestational trophoblastic disease, Gestational trophoblastic neoplasia.

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INTRODUCTION

Hydatidiform mole (HM) is a precancerous condition, however within the spectrum of Gestational Trophoblastic Disease, it is considered to be the least dangerous. It can occur at the time of conception and can alter both the result and the process of pregnancy by causing aberrant fertilization and placenta development. More importantly, it could be converted in to Gestational Trophoblastic Neoplasia (GTN). The most important aspect in type of GTN is HM.[1] It is well established that the mother's life can be saved via proper disease care, which includes prevention, early diagnosis, and follow up.[2] In the process of pregnancy there is abnormal vascularization in case of lung involvements.[3] The study by Giorgione et al found that after hysterectomy for HM, neither the rate of GTN conversion nor the requirement for chemotherapy changed. Complications from HM, especially the development of invasive forms, have the potential to have a significant impact on the health of women in

low-resource areas.[4,5] It is observed that in poor countries, development of invasive mole is highly possible because of improper follow up.

In addition to causing a woman to develop GTN, the Hydatidiform mole can have lasting effects on her reproductive health and overall well-being. Pregnancy-related deaths are also possible. Anemia and its effects may result from uterine haemorrhage. In addition, the mother might develop hyperemesis gravidarum, preeclampsia, hyperthyroidism, lung function disorder symptoms, and acute abdominal signs. [2]. Mental health might also be negatively impacted by the problems of HM. The mortality rate associated with moles has dropped over the past few decades with to improvements in detection, monitoring, and treatment. However, it causes significant stress for patients in terms of their time, money, and the health care system as a whole. When it comes to non-invasive procedures, ultrasound is the best option available. The uterus often appears to have a "snowstorm" or "bunches of grapes" pattern during a molar pregnancy ultrasound.[6]

In contrast, this is far less prevalent nowadays because of earlier detection, usually in the first trimester. Most first-trimester full moles present Sono graphically as a complicated, echogenic intrauterine mass with many tiny cystic areas.[7] On gross pathology, these are hydropic villi. In patients thought to have a spontaneous abortion, a molar pregnancy is only diagnosed following pathological investigation of a uterine curettage sample. This usually happens with a partial mole.[8] Frequency of molar pregnancy can vary from 0.7% [9] to 6.1% among pregnant women and risk factors were advanced maternal age 19.5%, previous miscarriage 15.9% and history of use of oral contraceptive pills 13.6% respectively.[10-11] Almost all of these above studies are retrospective and the statistics are derived from obstetrics admissions and Gestational Trophoblastic Disease patients and pathology reports. Our study will be a prospective study, presenting in all pregnant women in early pregnancy until 8-16 weeks of pregnancy will be evaluated to detect the frequency of molar pregnancy in tertiary care hospital. Result of my study will generate the local evidence in our population.

METHODS

The purpose of this research is to count the number of molar pregnancies among women who give birth at Jinnah Hospital in Lahore. To count how many times each risk factor for molar pregnancy appears in pregnant women. The research method was a cross-sectional analysis. It occurred in Jinnah Hospital's obstetrics and gynaecology department in Lahore. The research was conducted over the course of six months, from March 6, 2021, to December 2, 2021. 145 people were enrolled in the research. A transvaginal ultrasound was performed on all of the patients, and molar pregnancy and its associated dangers were documented.

The estimated frequency of molar pregnancies was 6.1%[10], hence a sample size of 145 was determined using these parameters. Non-probability Consecutive sampling was employed for this study.

Among the factors considered in making this pick, we find: Ages 15-45 years for the ladies. Testing for ß-hCG in the lab shows concentrations between 1,000 and 100,000 mIU/mL. Eight to sixteen weeks along in a normal pregnancy. Induced or unintentional abortion in the first trimester of pregnancy. A baby who is big for its age in pregnancy. Ultrasound evidence suggesting. It's called hyperemesis gravidarum, or severe morning sickness during pregnancy. Passage of grape-sized vesicles precedes vaginal bleeding. The criteria for the sample do not include rejected. The consent was taken after being fully informed**.**

145 women coming with early pregnancy abortions whether spontaneous or therapeutic, those suspicious by ultrasound, large for gestational age, hyperemesis gravidarum, per vaginal bleeding with passage of grapes like vesicles, fulfilling the inclusion criteria from outdoor department of obstetrics and gynecology, Jinnah Hospital, Lahore, included in the study after permission from ethical committee and research department of institution. On inclusion, informed consent was taken from each patient. Data collected for basic demographics (Age, gestational age, parity and ß-HCG level, blood group).

All women underwent transvaginal ultrasound, molar pregnancy and its factors noted as per operational definition on specially designed proforma. All women having molar pregnancy were managed efficiently as per standard protocols.

All the data was entered and analyzed using IBMSPSS version 22. Qualitative variables like, blood group, family history, molar pregnancy and risk factors (advanced maternal age, previous non molar abortion and history of use of oral contraceptive pills) were measured in terms of frequency and percentages. Quantitative variables like age, gestational age, ß-hCG level was measured as mean and standard deviation. Parity was presented as frequency.

Stratification was done with regard to gestational age, blood group, family history of molar pregnancy, ß-hCG level and parity to see the effect of these on molar pregnancy and its factors. Post stratification chi square test was applied, p value ≤ 0.05 was considered statistically significant.

RESULTS

A total of 145 patients were enrolled in this study during the period of six months. Patients ranged between 15-45 years of age. Mean age of the patients was 30.8±6.6 years (table-1) Mean gestational age of the patients was 13.3±2.3 week. (Table-1). Regarding parity, majority of the females were multigravida 87 (60%) while primigravida were 58 (40%). (Table-1) Details regarding advanced maternal age, History of previous miscarriage, Use of oral contraceptive pills, Family history of molar pregnancy is shown in table-1.

Distribution of patients by blood group was significant with B+ve 54 (37.2%), (Table-2). Molar pregnancy was found to be 10 (6.9%) in our result. With advanced maternal age 21% of females were with molar pregnancy, whereas history of previous miscarriage and use of oral contraceptive pills was present in 69.2% and 23% of females with molar pregnancy respectively, from this we can conclude that previous history of miscarriage is the most important contributing factor of molar pregnancy. (Table 3-5)

Table-1 Demographic and obstetrics profile n=145

Variables	Number	Percentage
Age (Years) Mean±SD = 30.8±6.6		
15-35	97	66.9
36-45	48	33.1
Gestational age (Week) Mean±SD = 13.3±2.3		
8-12	49	33.8
13-16	96	66.2
Parity		
Primigravida	58	40.0
Multigravida	87	60.0
Molar pregnancy		
Yes	10	6.9
No	135	93.1
Advanced maternal age		
Yes	48	33.1
No	97	66.9
Previous miscarriage		
Yes	13	09.0
No	132	91.0
Use of oral contraceptive pills		
Yes	22	15.2
No	123	84.8
Family history of molar pregnancy		
Yes	6	4.1
No	1369	95.9
Beta-hCG (mIU/ml) Mean±SD = 80359.5±37169.0		
≤ 100000	114	78.6
≥ 100001	31	21.4

Regarding gestational age 14.3% of females with molar pregnancy were of 8-12w of gestational age, molar pregnancy was present in 50% of females with positive family history, B-hcg was >10000 in 10% of females with molar pregnancy, 6% of females with molar pregnancy were multigravida, B+ve blood group was present in 7.4% of females with molar pregnancy. (Table 3-5)

Stratification was done with regard to gestational age, blood group, family history, Beta-hCG level and parity to see the effect of these on molar pregnancy and its factors (Tables 3-5). Positive family History, increased gestational age and High beta HCG levels were found to be statistically significant for molar pregnancy on Stratification analyses. (Table 4 & 5)

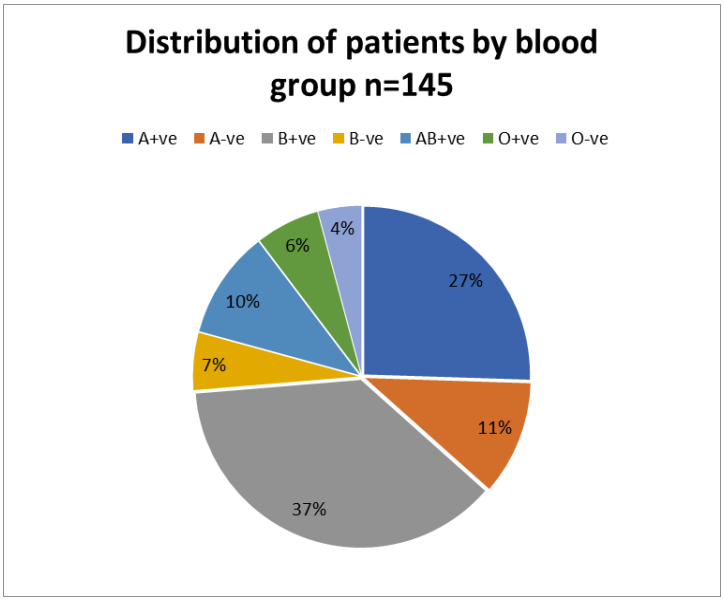

Table-3 Stratification for contributing risk factors of molar pregnancy n=145

Contributing risk Factors		Molar pregnancy		Total	P value
		Yes	No		
Advanced maternal age	Yes	10 (20.8%)	38 (79.2%)	48 (100%)	P<0.001*
	No	0	97 (100%)	97 (100%)	
Previous miscarriage	Yes	9 (69.2%)	4 (30.8%)	13 (100%)	p<0.001*
	No	1 (0.8%)	131 (99.2%)	132 (100%)	
Use of oral contraceptive pills	Yes	5 (22.7%)	17 (77.3%)	22 (100%)	p=0.001 *
	No	5 (4%)	118 (96%)	123 (100%)	

Table-4 Stratification Analysis: Effect of different variables on molar pregnancy

Variables	Molar pregnancy		Total	p value
	Yes	No		
Gestational age (week)				
8-12	7(14.3%)	42(85.7%)	49(100%)	P=0.012
13-16	3(3.1%)	93(96.9%)	96(100%)	
Family history of molar pregnancy				
Yes	3(50%)	3(50%)	6(100%)	<0.001*
No	7(5%)	132(95%)	139(100%)	
Beta-hCG levels (mIU/ml)				
≤100000	0	114(100%)	114(100%)	<0.001*
≥ 10000	10(32.3%)	21(67.7%)	31(100%)	
Parity				
Primigravida	4(6.9%)	54(93.1%)	58(100%)	P=1.000
Multigravida	6(6.9%)	81(93.1%)	87(100%)	

Table-5 Stratification for blood group with regard to molar pregnancy n=145

Blood Group	Molar pregnancy		Total	p value
	Yes	No		
A+ve	3(8.1%)	34(91.9%)	37(100%)	P=0.709
A-ve	0	16(100%)	16(100%)	
B+ve	4(7.4%)	50(92.6%)	54(100%)	
B-ve	1(12.5%)	7(87.5%)	8(100%)	
AB+ve	2(13.3%)	13(86.7%)	15(100%)	
O+ve	0	9(100%)	9(100%)	
O-ve	0	6(100%)	6(100%)	

DISCUSSION

Within the range of gestational trophoblastic disorders, molar pregnancies constitute a substantial illness burden. Women from South Asia have a higher risk, and there is a growing trend of recurrent molar pregnancies.[12] "Nutritional and socioeconomic status" has been cited as a reason for the upward tendency in some populations." [13]

Different regions have different rates of molar pregnancies. One common assumption is that it is more common in third world countries. Women under the age of 20 and over the age of 40 have a higher risk. Additionally, single mothers, people with low socioeconomic position, and women with protein, folic acid, and carotene deficiencies are at greater risk.[14]

GTD is more common in older women, and those whose pregnancies have already failed. For example, elective abortion and miscarriage are connected with increasing risk of molar pregnancy. One cause of a miscarried pregnancy is a molar pregnancy. The gold standard for diagnosis is by histopathologic study of the products of conception. Some authors argue that routine histopathologic assessment of abortion-related tissue is unnecessary because the clinical importance of results is minimal due to the low prevalence of HM.[15,16]

In our study, the frequency of hydatidiform mole was found to be at 6.9% among pregnant ladies. It is difficult to compare our prevalence with other studies due to the paucity of data. Frequency of molar pregnancy among pregnant women in our study is less than the 12.8% in a cross-sectional study carried out in Tanzania.[17]

However, quality control measures such as expert review or supplementary studies were absent from this Tanzanian investigation. Twenty of the patients (11.1% of the total) were classified as having a partial mole, and three (1.7%) were classified as having a full mole. Even for seasoned pathologists, making a diagnosis of a partial hydatidiform mole simply on the basis of histology might be challenging.[18] Compared to our 6.9%, they only reported finding 1.7% whole moles. Our results are more in line with those of a German study by Horn et al., who found a prevalence of hydatidiform moles, more precisely full hydatidiform moles validated with a molecular genotyping technique, that was very similar to our own: 5.1%.[19] Mulisya et al[10] demonstrated frequency of molar pregnancy as 6.1%.

Molar pregnancies are more common in women who are older than 35, a condition that has been widely documented.[15] It was found to have a strong correlation with a hydatidiform mole diagnosis. The oocytes of elderly women are probably more susceptible to artificial fertilization.[20.] After the age of 35, the risk increases dramatically, and after the age of 40, it increases by a factor of 10.[21]

Thirteen ladies (9%) in our sample revealed a history of abortion, and nine (6.2%) were confirmed to have complete mole. Consistent with previous research.[22] we observed that such a past was strongly associated with a hydatidiform mole diagnosis. Women who had had abortions in the past were also more likely to have a hydatidiform mole, according to the Ethiopian study.[23] Although a history of hydatidiform mole has been proven as a major risk factor for recurrent hydatidiform mole, it is possible that many women do not know the nature of the prior abortion because histological investigation is rarely done.[24] In current study, the advanced maternal age, previous abortion history of use of oral contraceptive pills, blood group were associated with hydatidiform mole.

CONCLUSION

The overall rate of molar pregnancies was 6.9%, which was quite high. High mother age (over 35), prior early pregnancy abortions, OC usage, rhesus blood type, and family history all contributed risk factors. Molar pregnancies were more common in women who were further along in their pregnancies, had higher beta hcg levels, or had a positive family history.

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AUTHOR'S CONTRIBUTIONS

SBI: Concept, manuscript writing, data collection, result
RI: Data analysis, result
FA: Helped in making result
BB: Concept, design