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ORIGINAL ARTICLE

Frequency of Molar Pregnancy in Abortion Cases Diagnosed by Histopathology Specimens at Nishtar Medical University Hospital, Multan Pakistan

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ABSTRACT

Objective: To determine the frequency of molar pregnancy in abortion cases diagnosed by histopathology specimens.
Study Design: A cross-sectional study.
Place and Duration of the Study: Department of Obstetrics & Gynecology, Nishtar Medical University Hospital, Multan from March 2020 to November 2020.
Material and Methods: A total of 243 pregnant women with singleton pregnancy aged 18 to 40 years with gestational age below 22 weeks presenting with abortion and admitted to labor ward of Nishtar Medical University Hospital, Multan were included. Both suction and sharp curettage specimens were obtained and submitted to the institutional pathology department for histopathological examination. Presence of molar pregnancy was noted.
Results: In a total of 243 women, mean age of the women was 29.6±4.5 years while 112(46.1%) women were aged between 26 to 30 years. Mean gestational age was 16.9±3.4 weeks whereas 39(16.0%) women were in their 1st trimester of pregnancy and 204(84.0%) in 2nd trimester of pregnancy. A total of 142(58.4%) women belonged to rural areas of residence. There were 58 (23.9%) women who were illiterate. Molar pregnancy was noted in 5(2.1%) patients, out of which, there were 2 cases of complete mole and 3 cases of partial mole.
Conclusion: Frequency of molar pregnancy in this study was 2.1% including 2 cases of complete and 3 cases of partial mole.
Keywords: Hydatidiform mole, gestational trophoblastic disease, molar pregnancy.

INTRODUCTION

Molar pregnancy (hydatidiform mole) is an abnormal form of pregnancy in which the embryo does not develop or develops abnormally but proliferation and hydropic degeneration of the placenta villi is seen.[1] Molar pregnancy is recognized as two separate entitles as complete or partial which are different in terms of histological characteristics, chromosomal pattern and clinical features.[2] The incidence of molar pregnancy is higher in South Asian women.[3] The incidence of molar pregnancy in Japan is estimated to be 2/1000 pregnancies which is nearly 3-fold more than what is reported from Europe and North America (around 0.6/1000).[4] Local data in 16,625 admitted women showed that 85(0.5%) women were diagnosed with molar pregnancy.[3] Studies have shown 15-20% of complete mole cases to have malignancy while 2-3% of partial mole cases are identified to have malignancy.[5] Histological examination of early products of conception is estimated to recognize between 60-70% of molar pregnancies.[6]

Molar pregnancy results from an unequal contribution of maternal and paternal chromosomes. The important causes of first trimester bleeding are spontaneous abortion, ectopic pregnancy and gestational trophoblastic disease (GTD). Researchers have nominated low-socioeconomic status, dietary deficiency in protein, folic acid and iron to be some of the most important predisposing factors of molar pregnancy.[7-9]

Some studies are available at national level but no data is available from South Punjab determining frequency of molar pregnancy in abortions diagnosed by histopathology of specimens so the present study was planned. Aim of this study was to determine the frequency of molar pregnancy in abortion cases diagnosed by histopathology of specimen.

MATERIAL AND METHODS

This cross-sectional study was done at The Department of Obstetrics & Gynecology, Nishtar Medical University Hospital, Multan from March 2020 to November 2020. Approval from "Institutional Ethical Committee" was acquired. Written consents were sought from all study participants.

Sample size of 243 was calculated with the formula: $n = z^2*p*(1-p)/e^2$ considering z=1.96, p=65%,[6] confidence level 95% and margin of error as 6%.

A total of 243 pregnant women with singleton pregnancy aged 18 to 40 years with gestational age below 22 weeks, parity below 5, presenting with abortion and admitted to labor ward of Nishtar Medical University Hospital, Multan were included. Women having medical disorders like hypertension, diabetes or chronic renal disease were not included. Women with bleeding disorders or using anti-coagulant drugs were also not enrolled. Women with ectopic pregnancies were also not included. Both suction and sharp curettage specimens were obtained and submitted to the institutional pathology department for histopathological examination. Presence of molar pregnancy was noted. Molar pregnancy was labeled as histopathological findings of either partial mole ("recognizable embryonic and fetal tissues, focal hydropic swelling of chorionic villi and focal trophoblastic hyperplasia") or complete mole ("grape-like vesicles, no fetal tissues, diffuse hydropic villi, atypical and hyperplastic trophoblast"). A special proforma was designed to record study data.

For data analysis, SPSS version 26.0 was used. Mean and standard deviation (SD) were calculated for age and gestational age of the patients. Parity (primiparous or multiparous), residential status (rural or urban), educational status (illiterate or literate) and molar pregnancy (yes or no) were highlighted as frequencies and percentages. Effect modifiers including age, gestational age, parity residential status and educational status were controlled by stratification. Post-stratification, chi-square test employed taking $p<0.05$ as significant.

RESULTS

In a total of 243 women, mean age of the women was 29.6±4.5 years while 112(46.1%) women were aged between 26 to 30 years. Mean gestational age was 16.9±3.4 weeks whereas 39(16.0%) women were in their 1st trimester of pregnancy and 204(84.0%) in 2nd trimester of pregnancy. A total of 142(58.4%) women belonged to rural areas of residence. There were 58

(23.9%) women who were illiterate. Table-I is showing characteristics of women included in the present study.

Table-I: Characteristics of the Patients (n=243)

Characteristics		Number (%)
Age in Years	18-20	7 (2.9%)
	21-25	38 (15.6%)
	26-30	112 (46.1%)
	31-35	66 (27.2%)
	36-40	20 (8.2%)
Gestational Age in Weeks	<13	39 (16.0%)
	13-21	204 (84.0%)
Parity	Primiparous	12 (4.9%)
	Multiparous	231 (95.1%)
Residential Status	Rural	142 (58.4%)
	Urban	101 (41.6%)
Educational Status	Illiterate	58 (23.9%)
	Literate	185 (76.1%)

Molar pregnancy was noted in 5(2.1%) patients, out of which, there were 2 cases of complete mole and 3 cases of partial mole. Figure-I is showing frequency of molar pregnancy in the present study.

Figure-I: Frequency of Molar Pregnancy (n=243)

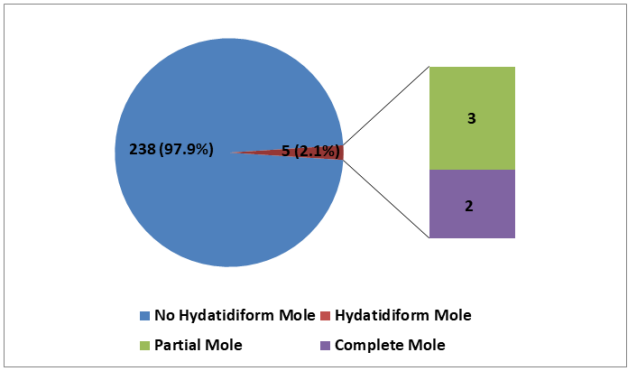

Table-II is showing distribution of characteristics of women with respect to molar pregnancy. No statistically significant association of age, gestational age, parity status, residential status of educational status was found with molar pregnancy (p>0.05).

Table-II: Distribution of Characteristics of Women with respect to Molar Pregnancy (n=243)

Characteristics		Molar Pregnancy		P-Value
		Yes (n=5)	No (n=238)	
Age in Years	18-20	-	7 (2.9%)	0.118
	21-25	-	38 (16.0%)	
	26-30	1 (20.0%)	111 (46.6%)	
	31-35	4 (80.0%)	62 (26.1%)	
	36-40	-	20 (8.4%)	
Gestational Age in Weeks	<13	-	39 (16.4%)	0.323
	13-21	5 (100%)	199 (83.6%)	
Parity	Primiparous	1 (20.0%)	11 (4.6%)	0.116
	Multiparous	4 (80.0%)	227 (95.4%)	
Residential Status	Rural	3 (60.0%)	139 (58.4%)	0.943
	Urban	2 (40.0%)	99 (41.6%)	
Educational Status	Illiterate	2 (40.0%)	56 (23.5%)	0.393
	Literate	3 (60.0%)	182 (76.5%)	

DISCUSSION

Molar pregnancy is known to impact women's health and considered to be an important health issue all around the globe. Molar pregnancy is categorized into either partial or complete subtypes. Exact identification about the complete or partial hydatidiform moles is essential at these pregnancies may expose affected cases to persistent gestational trophoblastic disease like invasive mole, choriocarcinoma or placental site trophoblastic tumor.[10,11]

In this study, the frequency of molar pregnancy among cases of abortion before 22 weeks of gestation was noted to be 2.1%. Reports about the incidence of molar pregnancy show variation as per specific regions.[12-14] It is usually portrayed that the incidence of molar pregnancy is high among developing countries. Age below 20 years or above 40 years is also highlighted to have increased risk of molar pregnancy.[15,16] Some researchers have proposed nulliparous women, low socioeconomic status and protein, folic acid and carotene deficiency to be the major contributors to molar pregnancy.[15]

Data from Singapore showed incidence molar pregnancies to be 1 per 500, 1 in 294 from Japan and 1 in 314 in Iran so the present study highlighting prevalence of molar pregnancy as 2.1% highlighted relatively higher magnitude of the problem.[17] A local study from Sindh Province evaluating 1056 admission revealed incidence of molar pregnancy to be 19.8/1000 live births.[18] Khaskheli et al noted frequency of hydatidiform mole to be 1.84%.[19] Najmi RS reported incidence of molar pregnancy to be 3.3/1000 among pregnancy related admissions.[20] A study from Iraq described incidence of gestational trophoblastic disease to be 1 per 318 pregnant ladies.[21] Data from Saudi Arabia analyzing 64,762 pregnant women reported 59 (0.09%) cases of molar pregnancies.[22] Kitange BH evaluating cases of incomplete abortion shared that 12.8% cases were having hydatidiform mole.[23] A study from Italy conducted by Salerno A noted rate of complete hydatidiform mole to be 0.5 per 1000 pregnancies and 0.8 per 1000 deliveries.[24] All these studies show that there is a variation regarding incidence or frequency of molar pregnancy in different regions of the world. Multicenter studies involving large number of cases should be conducted to further establish the magnitude of molar pregnancy in Pakistan.

Our study had some limitations as well. As this was a single center study conducted on a relatively small sample size during a limited span of time, the findings of this study cannot be generalized.

CONCLUSION

The frequency of molar pregnancy was 2.1% in the present study including 2 cases of complete and 3 cases of partial mole. Epidemiological analysis of pregnant cases presenting can be planned in the further to further enlighten us about the various aspects of molar pregnancy.

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