

A cross sectional descriptive study on hydatidiform mole at Gambian tertiary hospital

Abstract

Background/Aims: Hydatidiform mole is the non-malignant form of gestational trophoblastic neoplasia. The prevalence of 1:250 to 1:500 has been reported which vary widely in different parts of the world. Therefore, Knowledge of prevalence and associated risk factors may add value in the management outcomes of molar pregnancy in our setting.

Methods: A cross-sectional study of hydatidiform mole at the gynecology clinic of Edward Francis Small Teaching Hospital (EFSTH) from January 2016 to January 2018. Data was collected from patients' folders, entered into SPSS and analyzed with descriptive statistics. Association between variables was done using Non-parametric test (Kolmogorov-smirnov test) on SPSS.

Result: The prevalence of molar pregnancy was 9.46 per 1000 women. The most affected age group was 26-40 years (60%) whereas only 10% of molar pregnancy occurred in those above 40 years. Multiparity (55%) and blood group B+ (35%) recorded higher percentage. Test of significance showed strong association with occupation (p-value 0.000) of which 90% of women were house wives. There was no correlation between parity (Pearson correlation is -0.33; the p value 0.89); and maternal age (Pearson correlation 0.248; p value 0.291) at presentation with progression to invasive GTN.

Conclusion: The study suggests a high prevalence rate. Multigravidas, age group (26-40 years), B positive and house wives were associated with molar pregnancy.

Keywords: hydatidiform, mole, prevalence, risk, factors

Volume 9 Issue 1 - 2020

Matthew Anyanwu,^{1,2,3} Kajaly Bah¹

¹Department of obstetrics and gynecology, Edward Francis small teaching hospital (EFSTH), West Africa

²School of Medical and Allied Health Sciences, university of The Gambia, West Africa

³Department of obstetrics and gynecology, University of Gambia, West Africa

Correspondence: Anyanwu Matthew, Senior Lecturer, University of the Gambia School of Medicine and Allied Sciences Department of Obstetrics and Gynecology Banjul the Gambia, West Africa, Tel (220)-9922933 or (220)-7786700, Email anyanwum@yahoo.com

Received: December 28, 2019 | **Published:** January 14, 2020

Abbreviations: EFSTH, Edward Francis small teaching hospital; GA, gestation age; H Mole, hydatidiform mole

Introduction

Hydatidiform mole (H. mole) belongs to a spectrum of disease known as gestational trophoblastic disease (GTD), resulting from overproduction of the chorionic tissue, which is normally supposed to develop into the placenta. Hydatidiform mole (molar pregnancy) is the non-malignant form of gestational trophoblastic neoplasia.^{1,2} It is of clinical and epidemiological interest because of its significant complication in pregnancy. Hydatidiform moles are non-viable, genetically abnormal conceptions, showing excessive expression of paternal genes. In this condition, the placental tissues develop into an abnormal mass. Often, there is no fetal parts at all. However, partial moles may show presence of fetal tissue. This disease can occur even during or after intrauterine or ectopic pregnancy.

Reports of the incidence of molar pregnancy vary by geographic region.³⁻⁵ It is generally accepted that the incidence is very high in developing countries. The incidence is higher in women younger than 20 years and older than 40 years of age.^{3,6-8} It is also higher in nulliparous women, in patients of low economic status, and in women whose diets are deficient in protein, folic acid, and carotene.⁹⁻¹¹ In the far East, figures of 1 in 500 (Singapore), 1 in 294 (Japan), and 1 in 314 (Iran) have been reported. In Nigeria, a high figure of 1 in 379 has also been reported.^{12,13}

Hydatidiform Mole presents with amenorrhoea, vaginal bleeding and spontaneous passage of grape-like vesicles, high serum and

urinary β human chorionic gonadotrophin (β HCG) levels. There may also be hyperemesis gravidarum, doughy uterus, inappropriate uterine size, bilateral theca lutein cyst and rarely, features of thyrotoxicosis and pre-eclampsia in the first half of pregnancy.^{14,15} Hydatidiform mole should be removed by suction evacuation, while suspected partial molar pregnancy may require a combination of medical and surgical treatment as the fetal parts can present an obstacle to suction evacuation. However, hysterectomy remains an option for good surgical candidates not desirous of future pregnancy and for older women who are likely to develop malignant sequelae.^{4,16} Following evacuation, in the majority of cases, the residual trophoblastic cells are unable to continue to proliferate for long, and the fall in serum hCG level is a very accurate indication of their declining activity. The study aims to determine the prevalence, risk factors, clinical presentations, diagnosis, and outcomes of molar pregnancy managed at Edward Francis Small Teaching Hospital (EFSTH)- a tertiary and main referral hospital.

Methodology

A descriptive cross sectional study from January 2016 to January 2018 was conducted at Edward Francis Small Teaching Hospital, the only teaching hospital and tertiary referral hospital in the country. It is located in Banjul.

Study population: All patients with early pregnancy issues seen at the gynecology clinic and ward were identified but only those with Molar pregnancy as a diagnosis was considered for analysis during the period under review. Women beyond the child bearing age and those without pregnancy related issues were excluded from the study.

Procedure: A descriptive cross sectional study of Molar pregnancy at the gynecology inpatient and outpatient department of Edward Francis Small Teaching Hospital (EFSTH). Data was collected from patients' folders after going through the ledger books recording total number of patients in the period under review and their hospital numbers through which the folders were traced. The denominator of the prevalence estimation was the number of women in the reproductive age that had attended gynecology clinic or ward during the period under review. It was not all gynecology clinic and ward attendees in the period under review that was used for the denominator. A data collection tool was developed with variables designed to assess the objectives of the study. The variables include; socio-demographic characteristics of the study population suggested risk factors from the literature review, clinical features, blood group and repeated suction curettage which was used as a proxy for potential persistent invasive mole. Consistent check was used to ensure accurate data entering into SPSS version 20 software. The results were expressed in descriptive statistics by simple percentage and test of significance was by Chi square with error margin set at 0.05 and confidence interval of 95%.

Results

During the period under view (January 2016 to January 2018) a total number of 2115 pregnancy was recorded out of which 20 were Molar pregnancies. The estimated prevalence rate was 9.45 per 1,000 gynaecology cases in the reproductive age. (Table 1)

Table 1 Socio-demographic variables of molar pregnancy in EFSTH from January 2016 to January 2018

Socio-demographic variables		N	%	P value
Age (years)	<19	1	5	0.519
	20 to 25	5	25	
	26 to 30	6	30	
	31 to 40	6	30	
	>40	2	10	
Total		20	100	
Ethnicity	Mandinka	7	35	0.217
	Fula	7	35	
	Wollof	4	20	
	Jola	1	5	
	Serahuli	1	5	
	Total		20	
Parity	0	4	20	0.089
	1 to 4	11	55	
	>4	5	25	
Total		20	100	
Occupation	house wife	18	90	0
	civil service	2	10	
	Farmer	0	0	

Table continue

Socio-demographic variables		N	%	P value
Total		20	100	
Blood Group	A+	2	10	0.185
	A-	1	5	
	B+	7	35	
	O+	4	20	
	O-	0	0	
	NA	6	30	
Total		20	100	

Source: Folders of molar pregnant patients' folders at gynae clinic EFSTH N-frequency, NA-not available

The table shows dual peak age 30% for 26 to 30 years; and 31 to 40 years respectively. Advanced maternal age (>40years) records 10% and lower in less than 19 years which was 5%, Majority were multigravida (80%). Blood group B+ (35%) records the highest. The Mandinka and Fula were the tribes most affected (35%). All were married, 90% housewives and only 10% work as civil servants. Statistical significant association was established with maternal occupation (p value 0.00) of which 90% were housewives. (Figure 1)

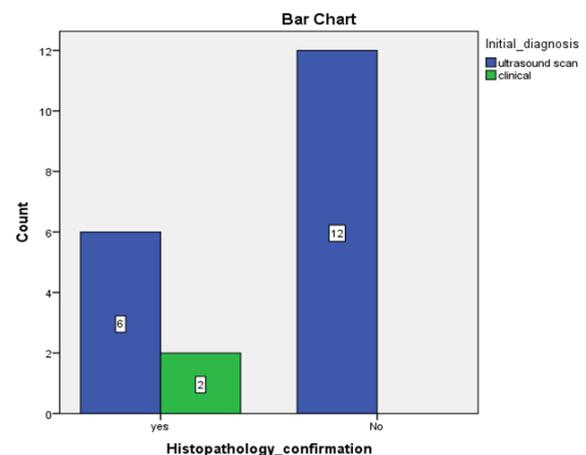


Figure 1 Diagnostic methods.

In addition to clinical findings, ultrasonography (80%) was the main modality of diagnosis in comparison with histopathology (40%). (Table 2)

Table 2 The relationship of maternal age and parity to second evacuation a proxy to assess potential risk of a progressive disease

	Second evacuation		N	p-value
	Yes	No		
Para 0	1	3	4	
Para 1- 4	0	11	11	
Para >4	0	5	5	
Total	1	19	20	0.993

Table continue

	Second evacuation		N	p-value
	Yes	No		
Age group				
<19	1	0	1	
20-25	0	5	5	
26-30	0	6	6	
31-40	0	6	6	
>40	0	2	2	
Total	1	19	20	0.891

There was no correlation between parity and progression of molar pregnancy in this research (Pearson correlation is -0.33; p value 0.99) was not statistically significant. Similarly there was no association between age at presentation and progression of molar pregnancy to invasive mole in this study (Pearson correlation 0.248; p value 0.891). (Figure 2)

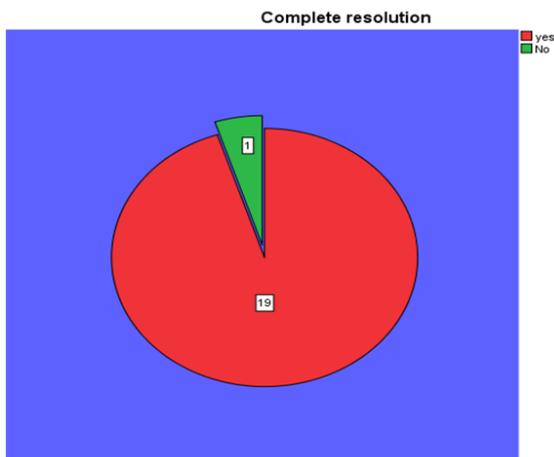


Figure 2 Maternal outcome post initial suction evacuation.

There was very high complete resolution of the hydatidiform mole post initial suction curettage (95%). All but one patient (5%) had a repeat molar evacuation.

Discussion

Hydatidiform mole (Molar pregnancy) is the benign form of gestational trophoblastic diseases. The disorder has geographical significance in terms of prevalence. In our study 20 patients (0.95%) were diagnosed of molar pregnancy from a total of 2115 patients that was recorded. This translates into prevalence of ~ 9 per 1,000 reproductive age patients that attended the gynecology clinic and wards within the period under review. Comparing the findings with other studies around the world revealed wide variation of prevalence. This wide variation in prevalence have been supported by other researchers; such as those working in India, have shown that the prevalence of molar pregnancy has been attributed to genetic and environmental factors, and reported a prevalence of 4.56 per 1000 deliveries.¹⁷ Similarly, a study conducted by Moein-vaziri et al.,¹⁸ in Taiwan stated that the prevalence of molar pregnancy may have geographical predisposition and ethnic-related. Some other scholars

working elsewhere have also associated low socioeconomic status to high prevalence of molar pregnancy.¹⁰

In Nigeria, Ethiopia and Uganda prevalence of 3.35:1000, 2.8:1000, and 3.42:1000 deliveries respectively.^{5,11,13,19} A similar study in Morocco, showed a prevalence of 4.3 per 1000 pregnancies. These reported prevalence in many parts of the world were lower than what we discovered (9 per 1,000 patients). However, scholars working elsewhere have reported much higher prevalence such as in DR Congo 61/1000,²⁰ Tanzania 128/1000,²¹ Indian subcontinent 19.2/1000,²² and Iran 28/1000.²³ Although, in the UK the reported prevalence was very low at 1.5 per 1,000 pregnancies in a population based study.

Therefore, the world-wide variation of prevalence reported across the globe may also depend on the denominator which invariably will differ with wide margins between population and hospital based studies. Our study was a hospital based study. Although the hospital is the only teaching hospital serving a population of about 2 million and the majority were women in their reproductive age. A study conducted by Tham et al.²² in England and North Wales Trophoblastic Screening and Treatment Centre, Weston Park Hospital showed that Asian women were at increased risk of having molar pregnancies, that it occurred more frequently at the extremes of reproductive age. In our study the mean age was 25.6±5 years at presentation. This was similar to mean age recorded by researchers working elsewhere (21, 13). However, in the Ethiopian series and Uganda the mean maternal age were 30.9±6.5 and 29.6±8.5 respectively.^{5,11} In our study the most affected were the multi gravidas (55%), those with blood group B positive (35%) and house wives (90%). Occupation was found to be significantly associated with molar pregnancy (p-0.000).

However, in the literature there were conflicting reports regarding the relationship of molar pregnancy and socio demographic characteristics of study population. Our findings may not be the expectation but the observed. A typical example is our findings regarding extremes of age and frequency of molar pregnancy which hitherto associated with more cases of molar pregnancy at young age (<19years) or advanced maternal age of (>39years). We discovered that advanced maternal age (>40years) records 10% and lower in less than 19years which was 5%. Similarly, it was reported to be commoner with nulliparous,⁹ but our study showed multiparous preponderance. In the majority of patients (90%), the classical presentation was that of amenorrhea suggestive of pregnancy then vaginal bleeding and abdominal pain. When combined with other clinical findings such as positive beta hCG, gestational age not compatible with uterine size, absent fetal heart tones; ultrasound was used to make diagnosis of a molar pregnancy (figure 1). However, (40%) of these were confirmed by histopathology report (figure 1). Vaginal bleeding and abdominal pain were the commonest symptoms (95%). Similar result was reported by Vargas et al.²⁴

Suction curettage was performed in all (100%) patients; one patient had second or a repeat suction curettage. Remarkably, this patient also received a single agent chemotherapy which was effective and she made complete recovery. Therefore in this study we used second evacuation as a proxy for potential progression into persistent/invasive mole. Some other researchers had similar outcome (25, 26) with a mean follow up duration of 7.5months (3–12months). There was no correlation between parity and progression of molar pregnancy in this research (Pearson correlation is -0.33; p value 0.99) as the correlation coefficient was not statistically significant. Similarly

there was no association between age at presentation and progression of molar pregnancy to invasive mole in this study (Pearson correlation 0.248; p value 0.891). In addition to these findings there was no documented confirmed persistent trophoblastic disease, invasive mole, or choriocarcinoma during the follow-up period. However, about 5% of the case had no proven document of being discharge from the clinic or gained complete resolution (Figure 2).

Most patients (95%) recovered and were discharged from the clinic. Similar findings in Charing cross hospital, London UK and Fatih Sultan Mehmet Research, and Training Hospital, Istanbul, Turkey have been reported.^{27,28} A study of molar pregnancy at a tertiary center in India, have reported risk of chorio carcinoma in complete Hydatidiform mole (H. mole) of 10-30% and partial H. mole of 0.5-5%.^{29,17} A well designed prospective study on molar pregnancy in our setting is certainly a research interest in the future.

Limitations

A major limitation of this study was that a significant number of files were either missing or deficient of crucial information required for the study. Also, limitation of this study was the restriction of the study population to the referral hospital with a selected group of women. In addition, it is a small scale retrospective study and it was not possible to assess some demographic factors with molar pregnancy because of incomplete information in the medical records. Hence the findings of this study may not reflect the true situation in the general population and should be interpreted with caution. Despite the limitations, this study has provided baseline information on Molar pregnancy in our setting and is a stepping stone towards further research on Hydatidiform mole among Gambian women.

Conclusion

The study showed high prevalence (9 in 1000) of molar pregnancy among reproductive age women presenting at the gynecology clinic and ward of Edward Francis Small Teaching Hospital Banjul. The most affected were the multigravidas, age group 26 to 40 years, blood group B positive and house wives. There was no correlation between the age, parity and progression of molar pregnancy with number of evacuation as a proxy.

Recommendations

We recommend putting in place capacity to do routine histopathological examination of all products of conception especially those at high risk for a molar gestation either by clinical suspicion or by risk factors including multigravidas, blood group B positive, maternal age of 26-40years and housewives because of high prevalence of complete hydatidiform mole.

Author's contributions

MA and KB conceived the study and contributed to the study design, data collection, and data analysis. MA wrote the manuscript. All authors read and approved the final manuscript.

Acknowledgments

The authors wish to thank Amie Jobarteh and all members of the hospital medical records for help with the patient's folders retrieval and relevant dataset for total number of pregnancies in the period under review.

Competing interests

The authors declare that they have no competing interests.

Ethics approval and consent to participate

Ethical clearance to undertake this study was sought from the Research and Publication Committee at the School of Medicine and Allied Health Sciences, University of The Gambia and approval was granted. Patient's folders were careful kept and their identifiable information was neither used nor shared. Consent to participate in the study was waived as this was a retrospective analysis of medical records.

Funding

The authors did not receive any funding from any source to carry out this study.

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