Original Research Article

Clinical Analysis of Molar Pregnancy

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Abstract

Background: Molar pregnancies represent a significant burden of disease on the spectrum of gestational trophoblastic diseases. Molar pregnancy is one of the causes of maternal morbidity and mortality among women in the reproductive age group. However the magnitude, clinical features and risk factors are not well documented in our country .This study was conducted to describe these aspects of the disease entity in one tertiary level hospital. *Objective*: to determine the frequency and evaluate the current clinical characteristics of patients with molar pregnancy in Bangladesh. *Study design*: this was a cross sectional observational study. *Study place and period*: Department of Obstetrics and Gynaecology in BSMMU, Dhaka. Study period from January 2015 to June 2015. *Study population*: Patients with molar pregnancy admitted in the department of Obstetrics and Gynaecology in BSMMU during the study period. *Outcome variables*: Varieties of clinical presentation, diagnosis and treatment modalities. *Results*: The incidence of molar pregnancy was 7.3 per thousand pregnancies in BSMMU hospital during the study period. The age of the patient ranged from 18-47 years, with maximum 65% between 21-40 years age group. Only 5% patients were above the age of 40. Majority 65% of patients were multigravida while 35% were primigravida. Maximum 85% of all were from low socio-economic group. In 40% patient's blood group was B+ve and A+ve in 25% patients. Abnormal vaginal bleeding was the commonest presenting symptoms in 60% patients. Other than that 15% patients came with vaginal bleeding and passage of vesicles, 12.5% with lower abdominal pain, 7.5% patients had no symptom except amenorrhea diagnosed incidentally and other 5% had amenorrhea with exaggerated sign symptom of pregnancy. More than two third (80%) of the patients had uterus more than the period of gestation. USG, serum ß-hCG and CBC was done in all the cases. Chest X- ray was done in 60% cases. Serum ß- hCG level was found above the level of 50000 in 80% cases. Different modalities of treatment such as suction evacuation, D&C and hysterectomy were used for the patients with molar pregnancy. Suction evacuation was the first line treatment in 87.5% patients of molar pregnancy & follow up should be done at least for 6 months. *Conclusion*: Molar pregnancy is the disease of women in their reproductive years. It was commonly found in young multipara women of below average income group. Most common clinical manifestation was vaginal bleeding. Diagnosis was confirmed by ultrasonography and serum ß-hCG. Patients with molar pregnancy have the risks of developing persistent gestational trophoblastic disease (GTD) and should be followed up. It is now indispensible to set up a nationwide accepted protocol for the early detection and management of patient with molar pregnancy as well as to initiate a structured follow up programme to observe the prognosis of the disease.
Keywords: Clinical Analysis, Molar Pregnancy, Gestational Trophoblastic Disease (GTD), Maternal Morbidity and Mortality.

INTRODUCTION

Gestational trophoblastic disease constitutes a spectrum of tumours and tumour like conditions characterized by proliferation of pregnancy associated trophoblastic tissue of progressive malignant potential [1, 2]. Gestational trophoblastic diease is classified histologically into four distinct groups: hydatidiform mole (complete and partial), chorioadenoma destruens (invasive mole), choriocarcinoma and placental site tumour [3, 4]. These pathologic entities have varying propensities for local invasion and metastasis [5]. They share three common characteristics, produce human chorionic gonadotrophin, origin from chorion which is genetically different from that of host and can be treated successfully with chemotherapy. Most commonly gestational trophoblastic disease results from a hydatidiform molar pregnancy. Hydatidiform mole is an

abnormal pregnancy characterized by the presence of hydropic swelling of the chorionic villi and proliferation of trophoblasts [6]. Molar pregnancy classified into two entities, complete and partial mole on the basis of morphological and cytogenetic examination [7, 8]. Complete and partial moles persist in twenty and five percent respectively following evacuation and remaining tissue may continue to grow [9]. This is called persistent gestational trophoblastic tissue and this 2-3% becomes choriocarcinoma. Treatment with chemotherapy nearly cures 100% of the cases. The risk that a mole developes in a future pregnancy is only 1-2% [9]. There is some variation in the incidence of gestational trophoblastic disease throughout the world [10] in the United States, a molar pregnancy develops in every 1000 to 2000 deliveries, while in Europe the rates have been reported to be 1.46-1.54 per 100 deliveries [11, 12] in Asian countries this frequency is 7 to 10 times greater that reported in North America or in Europe [5]. Mainly two risk factors increased the likelihood for the development of molar pregnancy. The woman being either too young or too old for pregnancy (under 20 yrs or over 35 yrs) and with previous history of molar pregnancy [13]. Molar pregnancy was strongly associated with nulliparity [14]. A study conducted by Tham *et al*., [15] stated that high incidence in Asia is generally attributed to low socio economic status and malnutrition. Symptoms of moles include vaginal bleeding, enlarged uterus, absent fetal heartbeat, pregnancy included hypertension, hyperemesis, anaemia [16, 17]. Both ultrasonography and serum ß-HCG levels are sensitive and reliable tools for detecting molar pregnancy. However, it is reported that ultrasonography can detect a molar pregnancy before evacuation in less than 60% cases [18]. Thus, the histological examination of the products of conception from first trimester miscarriage remains the gold standard for diagnosis of hydatidiform mole. Molar pregnancy is well recognized to have a risk of developing persistent gestational trophoblastic disease. This is identified in almost all cases by regularly measuring HCG that detects all the different forms of GTD. The overall survival rate of these patients has jumped from 19% in the era of surgery alone to 90% and more in the era of chemotherapy [19]. Since this group of disorders is now one of the highly curable neoplasms, early diagnosis and prompt treatment is necessary to decrease the mortality and morbidity from this condition. The exact statistics of incidence and prevalence of Gestational trophoblastic disease in our country is not available. The present study will enrich our knowledge about the molar pregnancy and their management among the Bangladeshi population.

MATERIALS AND METHODS
Study design: It was a cross sectional prospective observational study.

Place of study: The study was conducted in the Department of Obstetrics & Gynaecology in BSMMU hospital, Dhaka, Bangladesh.

Study period: Study was conducted between the periods of January 2015 to June 2015.

Study population: Women of molar pregnancy admitted in the department of Obstetrics & Gynaecology in BSMMU hospital, Dhaka, Bangladesh.

Sample size: So the final sample size was 40.

Main outcome: Different patterns of clinical presentation, diagnosis and treatment options.

Inclusion Criteria:
1. Patient having molar pregnancy with elevated ß hCG &/or ultrasonographic evidence of the disease admitted in the department of Obstetrics & Gynaecology in BSMMU hospital during the study period.

Exclusion Criteria:
1. Choriocarcinoma.
2. Invasive mole.
3. Placental site trophoblastic tumour.
4. Incomplete abortion.
5. Missed abortion.

Procedure of Data Collection:
Patients with molar pregnancy admitted in the department of Obstetrics & Gynaecology in BSMMU hospital were selected and then verbal consent was taken. Then proper history taking and clinical examination were performed. Patients were monitored during the time of management and up to discharge from hospital.

Procedure of Data Analysis and Interpretation:
After collection, data analysis were done with the help of computer based program SPSS after meticulous checking and rechecking. Data were presented in the form of tables and graphs.

RESULTS

Table-1: Incidence of molar pregnancy in admitted patients, (N=40)

Total No. of pregnant patients	No. of patients with molar pregnancy	Incidence
5450	40	7.3 per thousand pregnancies

During January 2015 to June 2015, total 5450 pregnant patients were admitted in Obstetrics & Gynaecology department of BSMMU hospital. Out of them 40 was suffering from molar pregnancy, so the incidence of molar pregnancy was 7.3 per thousand pregnancies.

Table-2: Demographic characteristics of the study patients, (n=40)

Age (years)	Number of patients	Percentage
≤20	12	30.0
21-40	26	65.0
>40	2	5.0
Mean± SD	27.7±6.5	
Range (min-max)	(18-47)	
Gravida		
primigravida	14	35.0
G2-G4	23	57.5
G5-G6	2	5.0
G7-G8	1	2.5
Economic Status		
Below Average	38	85
Average	06	15
Blood Group		
A	10	25
B	16	40
O	09	22.5
AB	05	12.5

A total of 40 patients were included in this study. They were divided into three groups according to their age. Majority 22 (65.0%) of the patients belonged to 21-40 years age group.12 (30%) patients were than 20 years age group and rest 2 (5%) were in the age group of more than 40 years. Mean ± SD of the age of the respondents was 27.7±6.5 years range was 18 to 47 years. Shows that 14(35%) patients were primigravida, 23 (57.5%) patients were 2nd to 4th gravid and 3 (7.5%) were multipara. Out of 40 patients, 34 (85%) patients came from below average income group family. Only 6(15%) patients came from average income income group family and none from well to do class. In this study 40% patients had blood group B, 25% patients had blood group A, 22.5% patients had blood group O, 12.5% patients had blood group AB (Table-2).

Table-3: Clinical presentation of the cases (n=40)

Presenting symptoms	Number of patients	Percentage
Amenorrhea followed by vaginal bleeding	24	60.0
Amenorrhea followed by vaginal bleeding & passage of vesicles	6	15.0
Amenorrhea with lower abdominal pain	5	12.5
Amenorrhea was the only symptom diagnosed during routing USG	3	7.5
Amenorrhea with exaggerated s/s of pregnancy	2	5.0

More than half, 60% patients presented with vaginal bleeding. Only 7.5% had no symptoms other than amenorrhea dignosed during routing ultrasonography (Table-3).

Table-4: Gestational period at the time of presentation, (n=40)

Period of amenorrhea at the time of presentation	Number of patients	Percentage
<12 weeks	12	30
12-16 weeks	18	45
17-20 weeks	8	20
21-24 weeks	2	5
>24 weeks	0	0

Majority, 70% patients came 12-24 weeks of gestation at the time of presentation and 30% patients came before 12 weeks of gestation (Table-4).

Table-5: Correlation between uterine size and gestation period in molar pregnancy, (n=40)

Height of the uterus	Number of patients	Percentage
Uterus more than period of gestation	32	80.0
Uterus corresponds with the period of gestation	6	15.0
Uterus less than period of gestation	2	5.0

In 32 (80%) patients uterus was more than period of gestation. In 6 915%) patients Uterus corresponds with the period of gestation and in 2 (5%) patients it was smaller than period of gestation (Table-5).

Table-6: Laboratory investigation prior to initiation of treatment of molar pregnancy, (n=40)

Name of the investigation	Number of patients	Percentage
CBC	40	100.0
Serum β-hCG	40	100.0
USG of lower abdomen	40	100.0
Chest X-Ray	24	60.0

CBC and Serum β- hCG was done in all patients. USG of lower abdomen was also done in 40 (100%). Chest X-Ray was performed in 24 (60%) patients (Table-6).

Table-7: Serum β-hCG level of the study population, (n=40)

β-hCG level	Number of cases	Percentage (%)
<50000	8	20.0
50000-100000	26	65.0
>100000	6	15.0

β-hCG level was more than 50000 in 80% of the cases. Only 20% cases it was below 50000 (Table-7).

Table-8: Treatment modalities in molar pregnancy, (n=40)

Treatment receive by the patients	Number of patients	Percentage (%)
Suction evacuation	35	87.5%
D&C	4	10%
Suction evacuation followed by total abdominal hysterectomy	1	2.5%

Suction evacuation was the first line of treatment receive by 35 patients of molar pregnancy.4 (10%) patients were treated by D&C due to incomplete evacuation earlier and 1 patients needed abdominal hysterectomy due to uncontrollable hemorrhage during suction evacuation (Table-8).

DISCUSSION

During the period total 5450 pregnant patients were admitted in BSMMU. Among them 40 patients were diagnosed as molar pregnancy. So the incidence was 7.3 per thousand hospital deliveries. One study by Nahar *et al*., [20] in Bangladesh showed that the incidence of GTD was 7.08 per thousand pregnancies. From other study by Sultana Rebeka *et al*., [21], it was found that the incidence of molar pregnancy was 8.7 per thousand pregnancies. Fatima *et al*., published a study from Pakistan recently (2011) which showed the incidence of molar pregnancy was 5 per thousand admissions to the hospital [22]. Another study in India by Reddy and Rajeswari during 1989-91 showed an incidence of 4.08 per thousand pregnancies [23]. Study in Mexico incidence of hydatidiform mole was 1 in 613 deliveries, in USA was 1 in 1700, in Europe and North America 1 in 2500 [24]. In present study, the incidence is more or less comparable with the studies of our country and India. But the incidence was more than the studies done in Europe and North America. The findings of this present study concur with many others that Asian women are more likely to develop molar pregnancies than non-Asians. In the present study, out of 40 patients with molar pregnancy 12 (30%) were in less than 20 years age group. Maximum number of patients 26 (65%) were in 21- 40 years age group and rest 2 (5%) were in the age group of more than 40 years. Mean ± SD of the age of the respondents was 27.7-6.5 years and range was 18 to 47 years. A study by Akler Sayeba *et al*., [25] showed that 63.7% patients were in 21- 30 years age group, 25% were below 20 years and 2.5% above 40 years of age which is compatible with the present. Moodley *et al*., [26] in a retrospective audit based study reviewed the clinical records of patients with regards to presentation, investigation, management and outcome. Total 112 patients were included in their study and the mean age of the patients was 28.5 years (SD 8.1 years). Only 20% patients in that study were above the age of 35 years. Curry *et al*., [27] showed highest 70% patients were below 30 years of age. Another study of 38 cases in Pennsylvania hospital showed that the age ranged from 15-48 years, 53% being between 20-30 years and only 5% over 40 years [28]. All the above studies support the current study. In the present study it was observed that primigravida 35% and 65% were multiparous women. Among the multiparous women most of the patients 57.5% were between 2nd and 4th gravida and 7.5% were grand multiparous which is similar to a study conducted by Akter (1981). In that study, it was found that more than 50% patients were 2nd to 4th gravida and 16% were grand multiparous. Another study of Reddy and Rajeswari [23] is also comparable with present study which showed that molar pregnancy

occurred 20% cases during first pregnancy, 70% between 2nd to 4th gravida, 10% patients were grand multiparous. In this series multiparity was found strongly associated with molar pregnancy. In this current study it was observed that majority 85% of the patients came from below average income group of family with poor protein intake and malnutrition. 15% of the patients came from average income group of family and none from well to do class. Molar pregnancy occurs in patients of below average income group status and in those whose diet is deficient in protein, carotene and folic acid. In present study, most of the patients with molar pregnancy had blood group B (37%), blood group A (26%), 22% patients had blood group O and 12% patients had AB group. All the respondents were Rh positive. In one study done by Sengupta and Konar *et al*., [29] reported a greater incidence of hydatidiform mole in the blood group A patients. Another study done by Reddy and Rajeswari showed 14% patients group A, 24% group B, 52% group O and 10% had AB group [23]. So, there is no significant variation in the pattern of blood group distribution in patients with molar pregnancy. So the findings of increased association of blood group B with molar pregnancy in this study differ from that of other studies. In the current series 60% patients presented with abnormal vaginal bleeding with amenorrhea, 12.5% presented in addition with passage of vesicles, 7.5% amenorrhea with lower abdominal pain. Amenorrhea with exaggerated sign symptom of pregnancy was found in 5% cases. 7.5% of patients were diagnosed accidentally by USG and had no symptom except amenorrhea. According to Goldstein and Berkowitz *et al*., [5] the most common presenting symptom in patients with complete mole was vaginal bleeding (97%). Nizam *et al*., [6] showed most common presenting complaints was bleeding per vagina among the patients with GTD. Another study by Soto Wright *et al*., [7] showed that vaginal bleeding remained the most common presenting symptom in 84% patients, pre-eclampsia in 13% and hyperemesis in 8% patients. A study by Curry SL [27] reported that 89% patients had abnormal bleeding. All the above studies are of same opinion that vaginal bleeding is the most common clinical feature. Out of 40 patients 45% patients were at 12 to 16 weeks of gestation at the time of admission which is consistent with the study of Nahar *et al*., [20] with 40% patients with 12-16 weeks of gestation at admission. 30% patients presented before 12 weeks in this series and no patients presented beyond 24 weeks. In one study by A.Vaidya [30] showed that among the 86 patients 52% patients were diagnosed in 2nd trimester and 34.8% patients were in 1st trimester which is almost similar to present study. In present series, out of 40 molar pregnancies, 80% of patients had greater uterine size than period of gestation, 15% of patients had uterus correspond with the period of gestation and 5% had uterus less than the period of gestation. In one study in DMCH by Florida (2003) showed 82% patients had uterine size greater [31]. 13% correspond with the period of gestation and 5% uterus

had lesser uterine size than the period of gestation. The above studies correlate with one another by more or less. Study by Soto Wright *et al*., [7] and Germer *et al*., [32] did not support this evidence where excessive uterine size was present in 28% and 15% patients respectively. The marked difference of this study with international studies is due to late diagnosis of the disease, which is due to lack of awareness, education of the patients and inappropriate investigation facilities. In the current study it was observed that blood grouping and Rh typing was done in all patients before starting treatment. In USG evaluation 100% patients were diagnosed as molar pregnancy. Pre- evacuation serum ß-hCG was done in 100% patients and chest X-ray was done in 60% patients of molar pregnancy. Soto Wright *et al*., [7] and Germer *et al*., [32] reported pre-evacuation serum ß-hCG and chest X-ray were available in 100% cases. In this present study, all patients were not undergone for all investigations due to many of them came with acute condition for which there was no time for doing investigation. Markedly elevated hCG levels are commonly seen in patients with molar pregnancy. In this series pre-evacuation serum ß-hCG measurement was performed in all patients. The level was greater than 50000 IU/ in 80% of the cases. Out of 40 patients, 35 (87.5%) were treated by Suction evacuation with or without sharp curettage, 4 (10%) were underwent D&C due to incomplete evacuation and 1 patient (2.5%) was treated by hysterectomy to control excessive hemorrhage during evacuation. In one study Akler Sayeba *et al*., [25] had shown 96.15% patient was treated by medical induction followed by Suction curettage, 1.28% had hysterectomy and 2.56% had primary hysterectomy. The above mentioned treatment modalities differ a little with the current study, the probable cause may be only 40 patients came primarily with hydatidiform mole during the study period and here no study done regarding persistent mole or chorocarcinoma, so there are some statistical differences remain between two studies. Tidy *et al*., [33] concluded that Suction curettage is safe method of uterine evacuation in GTD and its usage has increased with time. Schlaerth *et al*., [34] studied three hundred fifty-eight women received primary management for hydatidiform mole. Of these, 277 women (77.4%) underwent suction curettage to remove the hydatidiform mole. Sharp curettage (11.5%), pitocin (4.2%), hysterectomy (3.4%), prostaglandins (2.8%) and hysterotomy (.3%) were used less frequently. Two patients (.6%) had no therapy after spontaneous expulsion of a mole. Their experience documents that hydatidiform mole is a high risk pregnancy that requires prompt and intensive management. They concluded that suction curettage of the uterus is clearly the best means of management in most cases.

Limitation of the study
➢ Study was done in a single centre. So the results of the study may not be representative for the whole population.

➢ Small sample size and short time frame which may not reflect the true incidence and clinical condition.

CONCLUSION

Molar pregnancy is one of the causes of maternal morbidity and mortality among women in the reproductive age group. The contribution of ultrasonography in the diagnosis of molar pregnancy is widely recognized. Suction evacuation was the first line treatment for molar pregnancy. The risk of development of persistent trophoblastic disease and choriocarcinoma after molar pregnancy is high though it was absent in the current study. Early detection can be achieved by regular obstetric care, which also prevents the dreadful complication like hemorrhage, shock, infection, pulmonary embolism and malignant transformation. So optimal management of molar pregnancy depends on prompt diagnosis, correct stratification of the risk category and appropriate treatment.

RECOMMENDATION

In this study the population was selected from a single hospital in Dhaka city. This may not delineate the clinical profile of the whole country. So multicenter based study and statistical analysis should be carried out in large scale population. Health infrastructure should be strengthened for screening of high risk pregnant women and early diagnosis & management of the problem.

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