

“TO DETERMINE THE INCIDENCE, RISK FACTORS, CLINICAL PRESENTATIONS, DIAGNOSIS, TREATMENT OPTIONS, AND OUTCOMES OF MOLAR PREGNANCY”

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Abstract

Background: Hydatidiform mole is an abnormal pregnancy characterized by varying degrees of trophoblastic proliferation (both cytotrophoblast and syncytiotrophoblast) and vesicular swelling of placental villi associated with an absent or abnormal fetus/embryo. Hydatidiform mole (molar pregnancy) is the pre-malignant form of gestational trophoblastic neoplasia. It is of clinical and epidemiological interest because of its significant complication in pregnancy.

Aim: This study was to determine the incidence, risk factors, clinical presentations, diagnosis, treatment options, and outcomes of molar pregnancy in a tertiary health care institute of central India population.

Materials and Methods: A 4-year prospective with retrospective study of patients with molar pregnancy managed at the hospital from January 2019 to January 2023 was undertaken. The information on the age, parity, marital status, highest level of education, and gestational age at presentation were extracted from the case files. The data obtained were put in percentages, mean, and standard deviation. The data processing and analysis were carried out using Epi-info 2008 version 3.5.1 for windows.

Results: There were 93 cases of molar pregnancy, out of a total delivery, giving an incidence of 0.1% or 1 in 96 deliveries. The mean age of the patients was 31.3 (8.7) years, and 29.0% of the patients were nulliparous. The mean gestational age of the patients at presentation was 14.7 (3.5) weeks. The most common presenting symptom was abnormal vaginal bleeding, 93.5%, while anemia was the commonest complication seen in 96.8% of patients. Almost all the patients (93.5%) had suction evacuation while 6.5% had hysterectomy. As many as 6.5% of patients had post-evacuation chemotherapy while 87.1% patients had follow-up contraception. As many as 64.5% of patients had complete follow-up for less than 6 months. The case fatality rate was 9.7%.

Conclusion: Molar pregnancy has remained an important cause of maternal morbidity and mortality in our hospital, and the incidence was high. So there is need for early diagnosis, urgent referral, proper and immediate treatment is very necessary. Adequate follow-up of the patients should be taken.

Keyword: molar pregnancy, hydatidiform mole, hysterectomy.

INTRODUCTION

Hydatidiform mole is an abnormal pregnancy characterized by varying degrees of trophoblastic proliferation (both cytotrophoblast and syncytiotrophoblast) and vesicular swelling of placental villi associated with an absent or abnormal fetus/embryo. Molar pregnancy (hydatidiform mole) is defined as the pre-malignant form of gestational trophoblastic neoplasia. [1-5] It is the most common form of the disease, and it is benign in nature. [6-9] Reports of the incidence of molar pregnancy vary by geographic region. [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. [5,6,9-11] 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] In the far East, figures of 1 in 500 (Singapore), 1 in 294 (Japan), and 1 in 314 (Iran) have been reported. [8] In Nigeria, a high figure of 1 in 379 has also been reported. [8]

The diagnosis, counseling on contraception and potential chemotherapy are demoralizing and devastating to a young woman eager to replace the lost pregnancy. The Royal College of Obstetricians and Gynecologists [12] recommends that suspected complete molar pregnancies should be removed by suction evacuation, while suspected partial molar pregnancy should generally be removed via medical termination as the fetal parts can present an obstacle to suction evacuation. However,

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hysterectomy remains an option for good surgical candidates not desirous of future pregnancy and for older women who are likely to develop malignant sequelae.^[9]

Following evacuation, in the majority of cases, the residual trophoblast 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. ^[1,2,4-6] It is controversial whether prophylactic chemotherapy following evacuation of complete hydatidiform mole should be offered to patients considered at high risk for persistent gestational trophoblastic disease or whom poor follow-up is anticipated.^[9]

Management of molar pregnancy in developing countries like ours is often faced with unusual challenges. Against this backdrop, this study aims to determine the incidence, risk factors, clinical presentations, diagnosis, treatment options, and outcomes of molar pregnancy managed in a tertiary centre in central India. It is believed that the findings of this study will be used to recommend appropriate strategies to reduce the maternal morbidity and mortality arising from it.

Aims and objectives- This study was to determine the incidence, risk factors, clinical presentations, diagnosis, treatment options, and outcomes of molar pregnancy in a tertiary health care institute of central India population.

MATERIAL AND METHODS-

This is a retrospective and prospective study of all cases of molar pregnancy managed in birsa munda government medical college shahdol from January 2019 to January 2023. The information on the age, parity, marital status, highest level of education, and gestational age at presentation were extracted from the case files. The other information extracted included the risk factors, clinical presentations, laboratory results, treatment, follow-up, and the complications of molar pregnancy. Permission to conduct this study was taken from by the hospital ethical committee. The data obtained were put in percentages, mean, and standard deviation. The data processing and analysis were carried out using Epi-info 2008 version 3.5.1 for windows.

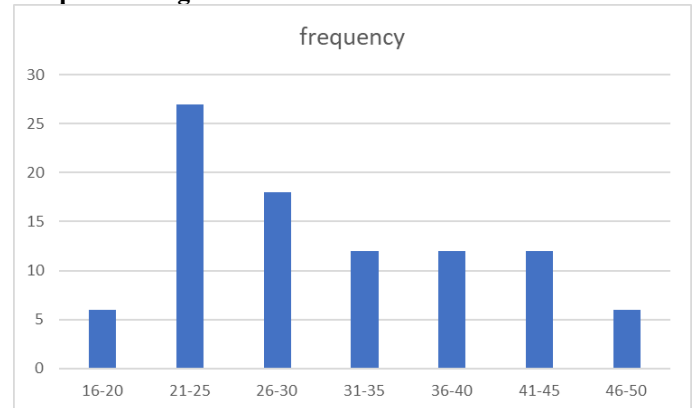
Results-

In this study total 102 cases of molar pregnancy that were diagnosed, confirmed histologically, and treated in the hospital. In which only 93 case files (91.2%) were retrieved. The total number of deliveries in this hospital during the same period was 9760.

-The incidence of molar pregnancy was 0.1% or 1 in 96 deliveries or 11 per 1,000 deliveries. Also, there were 3002 gynecological admissions, hence molar pregnancy constituted 3.4 % of all gynecological admissions.

- The mean age of the patients was 31.3 (8.7) years. Only 6.4% (2/31) of patients were 20 years or younger while women of above 40 years old constituted 19.4% (10/31) of the study cases. [This is shown in Table 1].

Graph no- 1 Age distribution



-The parity distribution of the patients ranged between 0 and 8. The nulliparous constituted 29.0% of the patients. The mean gestational age of the patients at presentations was 14.7 (3.5) weeks, with a range of 11 to 24 weeks.

-66 out of 93 (71.0%) patients were diagnosed during the first trimester. The clinical manifestations of the patients are shown in Table 2. Amenorrhea (100.0%) was the commonest presenting.

Graph no- 2 Clinical manifestation

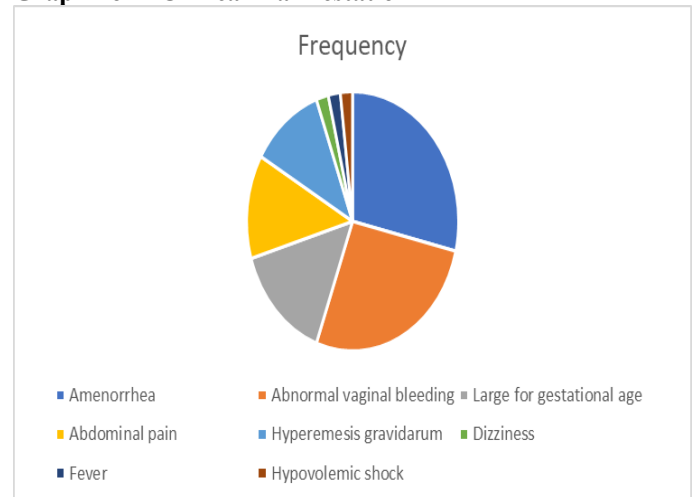


Table 1: The age and parity distribution of the patients

Age [years]	Frequency	Percentage
16-20	6	6.5
21-25	27	29.0
26-30	18	19.3
31-35	12	12.9
36-40	12	12.9
41-45	12	12.9
46-50	6	6.5
Total	93	100.0
Parity		
0	27	29.0
1	12	12.9
2	18	19.4
3	6	6.4
4	12	12.9
≥5	18	19.4
Total	93	100.0

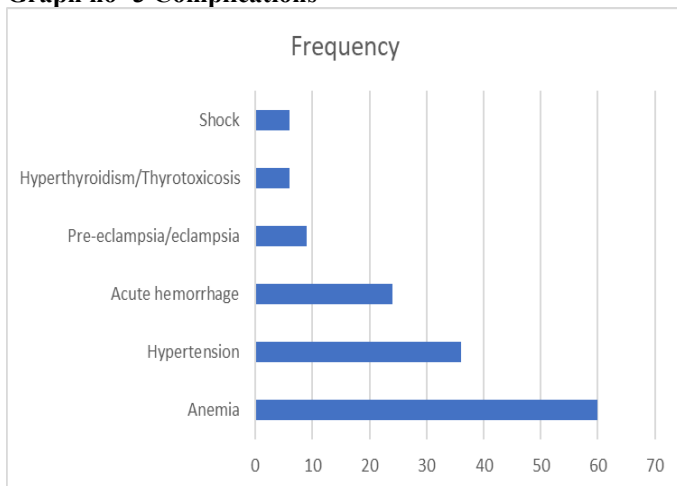
Table 2: The clinical manifestations of the patients

Presenting complaints	Frequency	Percentage
Amenorrhea	93	100.0
Abnormal vaginal bleeding	87	93.5
Large for gestational age	48	51.6
Abdominal pain	42	45.2
Hyperemesis gravidarum	36	38.7
Dizziness	6	6.5
Fever	6	6.5
Hypovolemic shock	6	6.5

Table 3: The clinical complications of the patients

Complications	Frequency	Percentage
Anemia	60	96.8
Hypertension	36	38.7
Acute hemorrhage	24	25.8
Pre-eclampsia/eclampsia	9	9.7
Hyperthyroidism/Thyrotoxicosis	6	6.5
Shock	6	6.5

complaints followed by abnormal vaginal bleeding (93.5%). Table 3 shows the complications observed in patients with molar pregnancy. Anemia (96.8%) was the commonest complication followed by hypertension (38.7%) and acute hemorrhage (25.8%).

Graph no- 3 Complications

-Among all the patients, 100.0% tested positive to pregnancy test, while 64.5% had proteinuria. 93.5% patients were diagnosed by pelvic ultrasonography. The typical snow-storm appearance was described in 64.5% of total cases. Theca lutein cyst was detected in 29.0% patients.

-93.5% had suction evacuation, while only 6 (6.5%) patients had hysterectomy for uncontrollable hemorrhage following suction evacuation. Majority, 90 (96.8%) had blood transfusion. Only 6.5% of patients had post-evacuation chemotherapy.

-Post-evacuation chemotherapy was given to only 6.5% of patients who had post-evacuation hemorrhage. Most of the patients, 81 (87.1%) used contraception after receiving their treatment for the molar pregnancies. Barrier method using male condom was the most common contraceptive method used in 45.2% of cases.

Table 4: The follow-up of patients with molar pregnancy

Duration of follow-up	Frequency	Percentage
0-1 Month	21	22.6
2-5 Months	39	41.9
6 Months-1 year	3	3.2
>1 year	6	6.5
Lost to follow-up	12	12.9
Total	93	100.0

The follow-up of patients is shown in Table 4. Up to 64.5% of patients had complete follow-up for less than 6 months, and only 6.5% of patients were followed up for more than 1 year. Only the 6 patients who received post-evacuation chemotherapy were followed up for more than 1 year.

-There were 7 maternal deaths during the period under review. This gave a case fatality rate of 7.5%. All the deaths were due to irreversible hypovolemic shock, which the patients presented with.

DISCUSSION

This is a retrospective and prospective study of all cases of molar pregnancy managed in birsa munda government medical college shahdol from January 2019 to January 2023. This study was to determine the incidence, risk factors, clinical presentations, diagnosis, treatment options, and outcomes of molar pregnancy in a tertiary health care institute of central India population.

Many reports have mentioned the incidence of molar pregnancy, but such reports have been limited by the lack of a precise and reproducible definition of the disease. The wide variation in the frequency of molar pregnancy has been reported. [1-3,13-18] In this study, the incidence of molar pregnancy was found to be 0.4%. This figure is higher than 0.09% in Uganda,^[19] 0.16% in Japan,^[8] and 0.2% in Ile-Ife^[20] Nigeria. This increased high incidence of molar pregnancy in our center may be due to the status of the teaching hospital as a referral center from various clinics both private and public.

This study has revealed that the incidence of molar pregnancy among the nulliparous women was almost 30%. This finding is in line with the documentations in the literature,^[9] but differs from the report in Uganda.^[19] This is disheartening because these nulliparous women were just beginning their reproductive career.

Our study has shown that more than 70% of the patients were in their 1st trimester of pregnancy at the time of diagnosis. Also, the mean gestation age of the patients was 14.7 (3.5) weeks. This data is similar to the result of previous studies and documentations in the literature. [9,15] This reflects the fact that there is need for early ultrasound examination in all pregnancies. In addition, there should be an evaluation of all patients with history of amenorrhea, since with routine first trimester ultrasonography, a significant proportion of patients has been identified, even though they may be asymptomatic at the time of diagnosis.^[8]

Besides amenorrhea, this study revealed that the most common clinical manifestation of molar pregnancy is abnormal vaginal bleeding. This occurred in more than 90% of cases. This agrees with documentations in the literature where more than 90% of patients with molar pregnancies presented with abnormal uterine bleeding, usually during the first trimester. [7-9,18]

Regarding the complications associated with molar pregnancies, this study had demonstrated that anemia (96.8%) was the commonest complication, followed by hypertension, acute hemorrhage, and pre-eclampsia/eclampsia. These findings differ

from a study in Nigeria where acute hemorrhage was the most common complication.^[18] Anemia could also explain why almost all the patients (96.8%) in this study received blood transfusion.

Approximately 10% of the studied patients had pre-eclampsia. This agrees with findings of other studies.^[9,20] In explaining this, Aghajanian observed that pre-eclampsia in the first trimester or early second trimester – an unusual finding in normal pregnancy – is pathognomonic for hydatidiform mole.^[9]

Hyperthyroidism was detected in more than 5% of cases. This could arise from stimulation of thyrotropin receptors by hCG.^[8,12] Hyperthyroidism occurring in patients with molar pregnancies is usually sub-clinical, and most patients remain asymptomatic. This rather high incidence of hyperthyroidism detected in our study suggest that a comprehensive pre-treatment hormonal evaluation should be conducted in molar pregnancy cases to prevent serious complications such as thyroid storm that could arise in these patients.

Suction evacuation was done in more than 90% of cases, and 6.5% of patient received post-evacuation chemotherapy. This finding disagrees with reports of others.^[20] However, it is controversial whether prophylactic chemotherapy following complete molar pregnancy should be offered to all patients,^[9] even though studies have shown that the incidence of post-molar gestational trophoblastic disease may be decreased with prophylactic chemotherapy.^[9] Therefore, it is not appropriate to give all patients routine prophylactic chemotherapy.^[21]

In our case, post-evacuation chemotherapy was given to only 6 patients who had post-evacuation heavy vaginal bleeding. Prophylactic chemotherapy is also known to be useful in high-risk group of women as it prevents metastasis and reduces morbidity. The other indications for prophylactic chemotherapy in hydatidiform mole include failure of beta hCG becoming normal by the stipulated time of 10-12 weeks, re-elevation of beta hCG post-evacuation, and evidence of metastases irrespective of the level of beta hCG.^[21]

It is noteworthy that the majority of the patients (64.5%) accepted post-evacuation contraception, and barrier contraceptives were the most common contraceptive method used by the patients. These findings differ from those presented in other studies.^[9,15,18] Following evacuation of the uterus, the use of contraceptive is recommended so that pregnancy is avoided for 12 months to minimize any deleterious effects on the developing oocytes and to minimize the confusion over disease relapse from hCG produced in pregnancy.^[5,8,12]

Unfortunately, most (66.5%) of the patients had complete post-treatment follow-up for less than 6 months, and only 6 (6.5%) cases were followed up for more than 1 year. It is recommended that patients should be seen at 4-weekly intervals for 1 year.^[8,9,12] A follow-up period longer than 1 year is no longer advocated.^[8,22-25]

The case fatality rate in our study is 9.7%. This is quite high when compared with other studies^[18,20] where there were no recorded maternal deaths. In this study, the maternal death occurred in patients who had irreversible shock at presentation. One of the limitations of this study is that the incidence of subsequent pregnancies after complete treatment of molar pregnancies was not studied.

CONCLUSION

Molar pregnancy is very common in our tertiary health institution. It has remained an important cause of maternal morbidity and mortality in our center. There is need for early recognition, timely referral, prompt and proper treatment of this

condition. Adequate follow-up of the patients should be reinforced. This high load and high incident Centre require further evaluation for this disease.

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