



OCCURRENCE, MANAGEMENT AND OUTCOME OF MOLAR PREGNANCIES IN TERTIARY CARE CENTRE, GMCH

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ABSTRACT

Molar pregnancies represent a significant burden of disease on the spectrum of gestational trophoblastic disease. The incidence varies widely in different parts of the world. The objective of this study is to determine the occurrence, management, and outcome of molar pregnancies at our institution. During the study period of 1 year, a total of 36 cases were diagnosed with GTD, giving an incidence of 2.6 per 1000 pregnancies, 2.7 per 1000 deliveries and 2.8 per 1000 livebirths in the department of Obstetrics and Gynaecology, GMCH. Vaginal bleeding was the commonest symptoms (66.66%) apart from amenorrhea. Suction evacuation was the primary mode of treatment (91.66%) and only 4 patients (11.11%) underwent hysterectomy. Chemotherapy was administered in 12 patients. During the follow up period, 5 patients (13.88%) were diagnosed with GTN, 4 of them being invasive mole and 1 being choriocarcinoma. Use of routine first trimester ultrasonography has led to early diagnosis and majority of cases are cured by simple surgical intervention. Longer follow up protocol attribute to poor compliance. A multi-centered study is essential in India to determine the true incidence and overall outcome of molar pregnancy that will help in the understanding of the burden of the disease.

KEYWORDS : GTD, Molar pregnancy, Suction Evacuation.

INTRODUCTION

Gestational trophoblastic disease (GTD) refers to a spectrum of interrelated but histologically distinct tumors originating from the placenta. They are characterised by a reliable tumor marker, which is the β -subunit of human chorionic gonadotropin (β -hCG).

Molar pregnancies represent a significant burden of disease on the spectrum of GTD. In India, the incidence of molar pregnancy is 1 in 160 pregnancies. In Asia, Indonesia has the highest incidence i.e. 1 in 77 pregnancies and 1 in 57 deliveries.^{1,2,3} This variation in worldwide incidence rates may reflect discrepancies between population-based and hospital-based data collection. Furthermore, under registration of GTD might occur.

Vaginal bleeding is the most common presenting symptoms occurring in up to 70% cases. The mainstay of treatment of molar pregnancy is Suction and Evacuation. Those cases requiring chemotherapy are generally cured with very low toxicity regimen. The curability of this condition is a milestone of success in the history of modern medicine.⁵

Persistent vaginal bleeding is the most common complication noted in post suction and evacuation patients. In fewer cases gestational trophoblastic neoplasia may develop, usually diagnosed on the basis of rise of β -hCG levels after the initial plateau or with the detection of metastasis.

Gestational Trophoblastic Neoplasia (GTN) is highly curable, yet there are many patients succumbing to GTN in our country due to lack of properly organised follow up programmes. It is important to have the regional registries for the proper understanding of this unique malignancy. This will help in making decisions, optimizing management and preventing treatment failure.⁵

The purpose of our study is to diagnose molar pregnancies, determine its occurrence, evaluate the preferred mode of management and its outcome in our institution which serves as a main tertiary referral centre for the entire state of Assam and the neighbouring states.

MATERIALS AND METHODS

Approval was obtained from the ethical committee of the hospital. Informed consent was taken from the subjects. The data for number of pregnancies and live births are taken from the hospital registries.

The study was a hospital-based prospective observational study conducted over a period of 12 months from 1st June 2020 to 31st May 2021, in women who are diagnosed with GTD in the department of Obstetrics and Gynaecology, Gauhati Medical College and Hospital. The institute serves as a main teaching and tertiary centre for the whole state of Assam and the neighbouring states.

All histopathologically and sonologically confirmed molar pregnancy cases attending the OPD and Emergency, department of Obstetrics and Gynaecology, GMCH aged between 18-45 years were included in our study. Diagnosed case of gestational trophoblastic neoplasia and ectopic pregnancies were excluded.

Once the patient was admitted, a detailed history was taken and examination was done. Blood samples were sent for the basic investigations including serum β -hCG estimation. Chest x-ray and ultrasonography is done.

Suction and Evacuation was the main mode of management in our hospital, hysterectomy was done in only few patients. Serum β -hCG is sent 48 hours after evacuation.

Follow up was done with weekly serum β -hCG estimation until 3 consecutive normal levels. Serum β -hCG level of <5 mIU/ml is taken as normal. In the current study, the patients were followed up to the maximum period of 3 months.

Data were collected, revised, coded and entered to the Statistical Package for Social Science (IBM SPSS) version 25. Qualitative data were presented as number and percentages while quantitative data were presented as mean, standard deviations and ranges when parametric. The comparison between two groups with qualitative data were done by using chi square test and/or Fisher exact test was used instead of

Chi-square test when the expected count in any cell was found less than 5.

RESULTS AND DISCUSSIONS

Wide variation is seen in the incidence of molar pregnancies which may be attributed to the differences in methodology, classification and definitions of denominator.⁷ As a result, comparison of incidence between different countries is often difficult.

During the study period, there were 13,646 total pregnancies, 13,369 total deliveries and 12,740 total livebirths in our department. A total of 36 cases were diagnosed with GTD giving an incidence of 2.6 per 1000 pregnancies, 2.7 per 1000 deliveries and 2.8 per 1000 livebirths. This is consistent with previous hospital-based studies in Pakistan by Shaheen et. al. (2.6 per 1000 livebirths)⁸ and in Malaysia by Nirmala et. al. (2.6 per 1000 deliveries).⁹ However, a higher incidence was seen in a study conducted by Agrawal et. al. (2015) at the B.P Koirala Institute of Health Sciences (Nepal) ,3.8–4.5 per 1000 live births¹⁰ and by Kumar et. al. (2016) at Regional Institute of medical sciences, Imphal, 4.5656 per 1000 deliveries.¹¹ Pundir et al. in Delhi in 2019 showed a lower incidence of 1.05/1000 deliveries.¹²

Highest incidence was seen in the age group of 21-30 years (61.1%). The median age was found to be 25 years. Similarly, Kumar et al. reported highest incidence in the age group of 20-30 years.¹¹

Table 1. Incidence, Age Distribution, Presenting Complaints And Parity.

	Number of cases	Percentage (%)
1. Incidence	36	2.6 per 1000 pregnancies
2. Age (yrs)		
<20	7	19.44%
20-30	22	61.1%
30-40	7	19.43%
3. Chief complaints		
a) Amenorrhoea	35	97.22%
b) Vaginal bleeding	24	66.66%
c) Grape-like vesicles	3	8.33%
d) Vomiting	2	5.55%
e) Asymptomatic (USG)	5	13.88%
4. Parity		
a) Primigravida	17	47.22%
b) Prior full-term delivery	13	36.11%
c) Previous abortion	6	16.66%
5. Period of gestation		
a) < 12 weeks	20	55.55%
b) 12-20 weeks	13	36.1%
c) > 20 weeks	3	8.33%
6. Anaemia (Hb<10gm%)	23	63.8%
7. Hyperthyroidism	7	19.44%

Majority of patients presented with history of amenorrhoea. Vaginal bleeding (66.66%) was the next common symptom,⁴ which was similarly noted by Fatima et al. (94.2%)¹³ and by Goldstein (97%) and also in a series from China where it was present in 83.2% of the patients¹⁴ but contrastingly a very low incidence of 29% was seen in Dubai.⁵ Asymptomatic 5 patients (13.8%) were diagnosed on routine antenatal USG. Similar incidence (6.5%) was observed by Kumar et al.¹⁵ while Tasneem et al. detected 51% patients on early pregnancy scan.⁵ Classical passage of grape-like vesicles was seen in 3 patients. Hyperthyroidism was reported in 7 (19.44%) patients in the present study while Kumar et al. reported 3% molar pregnancies with hyperthyroidism.¹¹ Hyperemesis gravidarum was reported in 2 (5.55%) patients in the present

study which was consistent with an incidence reported by Ocheke et al. and Fatima et al. (8% and 9.4%).^{12,13} No cases of pre-eclampsia were reported in the present study.

Majority of the patients presented in the first trimester (55.55%), consistent with the study by Ocheke et al. in Nigeria (44%).¹² The mean gestational age at diagnosis was 13±4.33 weeks which was similar as observed by Nimisha et al. (13 weeks).¹⁶ This is probably because the routine use of ultrasonography for the evaluation of early pregnancy has led to earlier diagnosis and the mean gestational age at presentation has decreased.

47.22% patients were primigravidas which were comparable with many other studies. 22 (61.11%) patients had uterine size larger than the period of gestation which was similarly observed by Fatima et. al. (88.3%).¹³ Tasneem et al. and Nirmala et al. observed it in 34% and 17.6% patients respectively.^{5,7} Such patients were subjected to ultrasonography and diagnosis of molar pregnancy was confirmed.

Anaemia was observed in 64% patients with the mean Hb% of 8.64±2.14 gm%, consistent with the study by Koirala et. al. (63.4%).¹⁷ In the present study 100% patients received blood transfusion and the mean units of blood required was 2.6 units, consistent with a study conducted in Pakistan (2.58 units),¹³ mainly attributed to our department protocol i.e. evacuation being done with at least 1 unit blood in hand, as a preventive measure.

Table 2. Diagnosis, Management And Outcome.

	Number of cases	Percentage (%)
1. beta-hCG levels		
< 1 lacs	9	25%
1-5 lacs	21	58.33%
> 5 lacs	6	16.66%
2. HPE reports		
a) Complete mole	23	63.89%
b) Partial mole	8	22.22%
c) Invasive mole	4	11.11%
d) Choriocarcinoma	1	2.78%
3. Treatment		
a) Suction evacuation	33	91.66%
c) Evacuation + Chemotherapy	12	33.33%
d) Hysterectomy	4	11.11%
4. Outcome		
a) Regression after Evacuation	14	38.88%
b) Regression after repeat Evacuation	5	13.88%
c) Regression after Evacuation + Chemotherapy	6	19.44%
d) Malignant transformation (GTN)	5	13.88%
5. Follow up		
a) Up till 3 months	25	69.44%
b) Lost after 1 st normal hCG	6	16.66%
c) Lost before 1 st normal hCG	5	13.88%

Serum β-hCG was raised in all the patients. The mean pre-evacuation β-hCG was value of 2.83 ± 2.35 lakhs IU/L. Post-evacuation specimen was sent for HPE in all the cases out of which 63.9 % patients showed features of complete mole and 22.22% partial mole. It was consistent with the study conducted by Braga A. et al.¹⁸ where 66.2% had complete mole and 29.5% partial mole but was inconsistent with the study from Malaysia, where 46.1% had complete mole and 53.9% partial mole.⁷

Suction and evacuation was the primary mode of management in 33(91.66%) cases, comparable with the study by Kumar et al. (96.6%) and Agrawal et. al. (89.8%).^{15,10} In the

present study 4 (11.1%) patients underwent hysterectomy due to GTN and failed chemotherapy. Chemotherapy was administered in 12 cases (33%) based on their failure to primary management in the form of persistent vaginal bleeding or plateau β hCG levels. 2 of them were treated with triple-agent chemotherapy and the rest with single agent. It was well tolerated among the patients.

39% patients had spontaneous regression following primary treatment while 30.55% patients required repeat suction evacuation followed by regression.

The mean time to achieve first normal β hCG was 8.88 ± 1.58 weeks. It never returned to normal values during our 3 months period of follow up in 2 patients. Similar finding was observed in the study conducted by Ayman et al.¹⁹ with the mean of 9 weeks.

5 patients (13.88%) developed GTN, 4 being invasive mole and 1 choriocarcinoma. Similar proportions were reported by Kumar et. al., with 23% invasive mole and 14% choriocarcinoma.¹⁵ Braga et al in Brazil, observed a progression to GTN in 21.8% cases.¹⁸

25 patients (69.44%) were followed up for a period of 3 months. 5 patients lost to follow up after the β -hCG level returned to normal value and 6 patients lost to follow up before the 1st normal β -hCG value. Nirmala et al. reported a lost to follow up in 27.5% cases before completing the protocol.⁹

CONCLUSION

- The findings of the present study were consistent with majority of the published literature.
- Use of routine first trimester ultrasonography has led to early diagnosis and management of molar pregnancy.
- Majority of cases are cured by simple surgical intervention.
- Follow up of the patients will always remain a challenging task as our tertiary care hospital not only serves the Guwahati city but also the neighboring towns, cities and states.
- A multi-centered study is essential in India to determine the true incidence and overall outcome of molar pregnancy that will help in the understanding of the burden of the disease.

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