



Original Research Article

Study of vesicular mole and its outcomes

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ABSTRACT

Background: Vesicular mole is defined as the premalignant form of gestational trophoblastic neoplasia. 15-20% of complete moles and <5% of partial moles will develop into Gestational Trophoblastic Neoplasia. It is of clinical and epidemiological interest because of its potential for significant consequences on women's health. The study aims to determine the incidence, outcomes and complications of pregnancy with vesicular mole at SKNMC hospital, Pune.

Materials and Methods: It was a retrospective study. Approval for the study was obtained from institutional ethical committee. Data was collected from OPD, OT register and Indoor patient record file from August 2015 to August 2020. Proformas were filled. All the collected data was compiled in a master chart, analysed and outcomes of different variables under study have been expressed in the form of mean, frequencies, percentages and charts.

Results: The incidence of molar pregnancy was 0.17% or 1 in 561 deliveries. Vesicular mole occurred more in the age group 16 to 25 years, was lowest in age group 31-35yrs. Vesicular mole was most common in nulliparous women. The mean gestational age of the patients at presentation was 9.4 week. Hemorrhage after suction and evacuation was seen in 26% cases needing intra and post-operative blood transfusion. 6% of patients developed thyrotoxicosis. During follow up invasive mole was diagnosed in 2 cases (6%). The case fatality rate is 2.9% in our study. 1 patient (3%) developed choriocarcinoma and died within 6months after hysterectomy and chemotherapy.

Conclusions: The incidence of 1 in 561 deliveries which is higher than non-Asian countries 1/752 but lower than other Asian countries 1/387. The routine first trimester ultrasonography helps in early detection of asymptomatic women. If not followed up regularly it can be life threatening.

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1. Introduction

Vesicular mole is the premalignant form of GTN. Division into complete and partial mole is according to the degree of tissue changes and to presence or absence of a fetus/embryonic tissue elements. Complete hydatidiform moles have more clinical importance due to high chance of persistence or its progression to choriocarcinoma. Fifteen to twenty percent of complete moles while less than five percent of partial mole will develop into gestational

trophoblastic neoplasia.¹⁻³

There is a geographic variation in the incidence of molar pregnancy with a higher incidence in developing countries and in women at extremes of age i. e. women who are younger than 20 years or women who are older than 40 years of age. It is also higher in nulliparous women, and in women of low economic status. The incidence is greater in those women whose diets are deficient in various nutrients such as protein, folic acid, as well as carotene.^{1,4-8}

The prior failed pregnancy also increases incidence of GTD along with maternal age. The elective abortion and

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miscarriage is associated with the rise in VM pregnancy.

GTD is group of disorders which could convert to Gestational Trophoblastic Neoplasia (GTN). Most common (>50%) cause of GTN is Vesicular mole.²⁻⁹ The prevention of VM, early diagnosis and also follow up is of utmost importance to save the life of mother.^{2,5}

According to the RCOG guidelines the mode of treatment in suspected complete vesicular mole should be suction and evacuation while that in partial molar pregnancy should be medical termination. This is because the fetal parts usually present as an obstacle to suction and evacuation. VM is of clinical as well as an epidemiological interest because of its significant impact on women's health. It was found that 15% of VM can complicate into invasive mole leading to persistent bleeding per vagina, rupture of the uterus and choriocarcinoma.^{1,4}

The aim of the study is to determine incidence, outcomes and complications of VM at SKNMC hospital.

2. Materials and Methods

The present study is an observational, retrospective study carried out at our tertiary care centre over a period of 5yrs from August 2015 to August 2020. It was started after the approval from our institutional committee.

The study population included all confirmed cases of vesicular mole who presented at our tertiary care centre. 34 cases that had fulfilled the inclusion criteria were chosen as the study population.

Data was collected over a period of 5yrs. For retrospective cases, indoor papers were retrieved from the medical record department; data was recorded and entered in the case record forms for analysis. Waiver of consent was applied for retrospective cases. For prospective cases, indoor patients were enrolled and their records were analyzed until discharge from tertiary care centre.

2.1. Inclusion criteria

1. Clinically, radiologically and histopathologically confirmed cases of vesicular mole presenting at our tertiary health care centre.
2. Cases of vesicular mole operated at our tertiary health care centre.
3. Patient consenting to being a part of the study.

2.2. Exclusion criteria

1. Confirmed cases of vesicular mole operated outside and referred to our tertiary care centre.
2. Patient not consenting to being a part of the study.

This was a retro-prospective observational study and collected data was compiled in a master chart, analysed and outcomes of different variables under study have been expressed in the form of mean, frequencies, percentages and

charts.

3. Results

There were total 34 cases of VM pregnancies during the study period that were diagnosed with a histological confirmation and treated in the hospital. The number of deliveries during the period of study was 19098. We found the incidence of 0.17% or 1 in 561 of the total delivered patients.

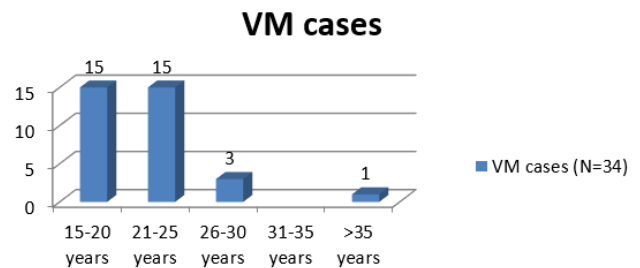


Figure 1: Age distribution of patients with VM

The patient's age ranged from 18 to 40 years with a mean of 25.4 ± 5 years. VM occurred more in the age group 16-25 years, was lowest in age group 31-35yrs i.e zero cases. Figure 1

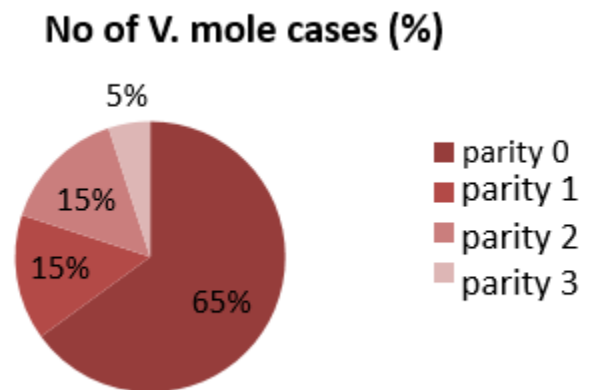


Figure 2: Parity wise distribution of patients with V. mole

The parity distribution of the patient ranges from 0 to 4. V mole is most common in nulliparous women constituted 65%.

The mean gestational age of the patients at presentation was 9.4 week, with a range of 7 to 17 weeks. 30 out of 34 (88%) patients were diagnosed during 1st trimester. (Table 2)

Vaginal bleeding occurred in 19 (56%) cases, hyperemesis gravidarum in 10 (29%) cases and anemia in 13 (38%) cases. The disparity between uterine size and period of gestation was seen in 10 (29%) cases and ovarian

Table 1: Clinical manifestation of the patient

Presenting complaints	Frequency	Percentage
Irregular bleeding PV	19	56%
Hyperemesis gravidarum	10	29%
Anemia	13	38%
Preeclampsia	4	12%
Thyrotoxicosis	2	6%
Uterine size larger than dates	10	29%
Ovarian enlargement	10	29%

enlargement in 10 (29%) cases. 4 (12%) patients developed preeclampsia.(Table 1)

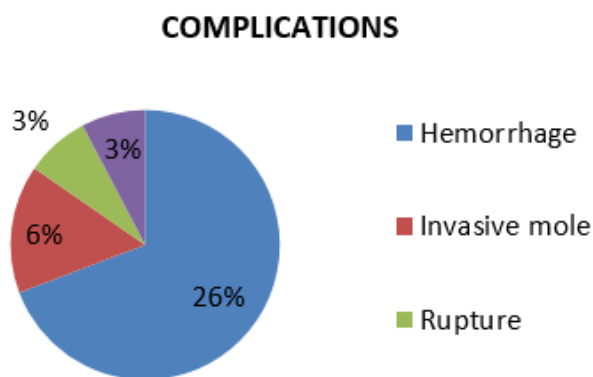


Figure 3: Complications

Hemorrhage after suction and evacuation was seen in 26% cases needing intra and post operative blood transfusion. 6% patients developed thyrotoxicosis. During follow up invasive mole was diagnosed in 2 (6%) cases based on persistently high β hCG levels after suction evacuation and pelvic ultrasound. 1 patient (3%) developed choriocarcinoma and died within 6 months after hysterectomy.(Figure 3)

Table 2: Chemotherapy (According to FIGO 2000 GTN Scoring system)

Single drug therapy	3 (9%)
Multiple drugs	2(5%)

3 Women with score ≤ 6 were treated with single drug methotrexate and folinic acid on alternate day. 2 women with score ≥ 7 were treated with methotrexate and actinomycin. The incidence of patient needing chemotherapy is 14%.(Table 2)

4. Discussion

In our study the incidence of VM is 0.17% or 1 in 561 deliveries. It varies according to geographical region^{1–3,7,8,10} and is more in developing countries. The incidence is higher than UK 1/714 and non-Asian countries

1/752 but lower than other Asian countries 1/387.

VM was most common among nulliparous women almost 65% in our study. This finding is similar with the study of Aghajanian P.³ The mean age at the time of presentation was 25.4 ± 5 years which is similar to the study of Anyanwu M, Bah K.⁵

In the study more than 88% of the VM patients were diagnosed during 1st trimester. The mean gestation age was 9.4 weeks. This finding is similar to the studies of Olivier M¹ and Aghajanian P.³ More number of patients were identified due to routine first trimester ultrasonography, even though they were asymptomatic at the time of diagnosis.^{1,3} This signifies the role of an early ultrasound.

The most common clinical manifestation of VM is abnormal vaginal bleeding besides amenorrhea which occurred in 56% of cases. This agrees with the studies of Oliver M¹ and A. Igwebe.¹¹ Abnormal vaginal bleeding is most common sign of molar pregnancies.^{5,12} In 29% of case the uterine size was larger than gestational age.

The commonest complication in the study was haemorrhage seen in 26% of patients, needing blood transfusion.

The incidence of pre-eclmpsia is variable with rates as high as 20% in some studies. In our study it was 12% which correspondence with the studies of Aghajanian³ and Igwegbe A.¹¹ Aghajanian observed that pre-eclampsia in the first trimester or early second trimester – an unusual finding in normal pregnancy – is pathognomonic for hydatidiform mole³

Hyperthyroidism was detected in 6% of cases which was similar to the study of Igwegbe A.¹¹ This is due to the stimulation of thyrotropin receptors by hCG.² Hyperthyroidism in the molar pregnancies is asymptomatic as it is usually sub-clinical.

Suction and evacuation was done in all the cases. 5 patients (14%) needed post-evacuation chemotherapy. There was rise in hCG after evacuation leading to invasive mole in 2 patients and choriocarcinoma 1 patient. Prophylactic chemotherapy following complete molar pregnancy in all patients is still controversial. According to Green top guidelines no 38 and New Zealand GTD guidelines 2018 prophylactic chemotherapy is not recommended.¹² According to some studies^{3,10,12–17} the risk of GTD in patients with molar pregnancy was decreased if treated with prophylactic chemotherapy after surgery. However, serial hCG monitoring is still needed as prophylactic chemotherapy does not drop the risk to zero. The patients who received prophylaxis chemotherapy need more chemotherapy if their disease recurs.¹²

Most of the patients 88% accepted contraception. A barrier contraceptive was used by most of the patients.¹¹ Following evacuation, contraceptive is recommended to avoid pregnancy for 12 months. It minimizes any deleterious effects on the developing oocytes. It also avoids the

confusion of disease relapse from hCG produced in pregnancy.^{10–12,18,19}

The post treatment follow up should be for 6 months from the date of evacuation or from normalisation of the hCG level.¹² Unfortunately, the follow up in most 63.4% of the patients was for less than 5 months¹¹ and only 30.2% cases had follow up for 7 months.

The case fatality rate in our study is 2.9%. The death occurred in a patient who developed choriocarcinoma 6 months after suction and evacuation. The patient did not have regular follow up and came with vaginal bleeding. The patient died within 2 months after hysterectomy and chemotherapy.

A major limitation of the study is that the incidence of outcome of subsequent pregnancies after complete treatment in patient with prior molar pregnancies was not studied.

5. Conclusion

In our tertiary care centre molar pregnancy is very common. It is one of the important cause of maternal morbidity. The need for early recognition, prompt and proper treatment of vesicular mole is of utmost significance along with adequate follow-up of the patients.

6. Source of Funding

None.

7. Conflict of Interest

None.

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References

1. Mulisya O, Roberts DJ, Sengupta ES, Agaba E, Laffita D, Tobias T, et al. Prevalence and Factors Associated with Hydatidiform Mole among Patients Undergoing Uterine Evacuation at Mbarara Regional Referral Hospital. *Obstet Gynecol Int.* 2018;p. 1–7. doi:10.1155/2018/9561413.
2. Berkowitz RS, Goldstein DP. Gestational trophoblastic disease. In: Berek J, Hacker N, editors. *Berek and Hacker's gynecologic oncology*. 6th edn. New York: Wolters Kluwer; 2015. p. 625–48.
3. Aghajanian P. Gestational trophoblastic disease. In: Decherney A, Nathan L, Goodwin T, Laufer N, editors. *Current Diagnosis Treatment in Obstetrics and Gynaecology*. 10th edn. New York: Mc Craw Hill Medical Publishing Division; 2007. p. 885–95.
4. Harsono AB, Hidayat YM, Winarno GNA, Nisa AS, Alkaff FF. A Case of Rapid Transformation from Hydatidiform Mole to Invasive Mole: The Importance of β -hCG (Human Chorionic Gonadotropin) Serum Levels in Follow-Up Evaluation. *Am J Case Rep.* 2021;22:e931156. doi:10.12659/AJCR.931156.

5. Anyanwu M, Bah K. A cross sectional descriptive study on hydatidiform mole at Gambian tertiary hospital. *MOJ Women's Health.* 2020;9(1):175. doi:10.15406/mojwh.2020.09.00260.
6. Ning F, Hou H, Morse AN, Lash GE. *F1000Res.* 2019;8. doi:10.12688/f1000research.14953.1.
7. Aziz N, Yousfani S, Soomro I, Mumtaz F. Gestational trophoblastic disease. *J Ayub Med Coll Abbottabad.* 2012;24(1):7–9.
8. Altman AD, Bentley B, Murray S, Bentley JR. Maternal age-related rates of gestational trophoblastic disease. *Obstet Gynecol.* 2008;112(2 Pt 1):244–50.
9. Suprasert P, Siriaree S, Manopunya M. Outcome of metastatic gestational trophoblastic neoplasia: Fourteen year experience from a Northern Thailand tertiary care center. *Asian Pac J Cancer Prev.* 2016;17(3):1357–62.
10. Tsukamoto N, Matsuyama T, Matsukuma K, Sugimori H, Tsukamoto N, Matsuyama T, et al. Prophylactic chemotherapy for hydatidiform mole. Five to 15 years follow-up. *Cancer.* 1986;58(3):624–9.
11. Igwegbe A, Eleje G. Hydatidiform mole: a review of management outcomes in a tertiary hospital in south-east Nigeria. *Ann Med Health Sci Res.* 2013;3(2):210–4.
12. New Zealand Cancer Group Guidelines, Gestational Trophoblastic Disease Guidelines, December 2018. Available from: <https://www.health.govt.nz/system/files/documents/publications/gtd-guidelines-2018.pdf>.
13. Wang Q, Fu J, Hu L, Fang F. Prophylactic chemotherapy for hydatidiform mole to prevent gestational trophoblastic neoplasia. *Cochrane Database Syst Rev.* 2017;9(9):CD007289. doi:10.1002/14651858.CD007289.pub3.
14. Erfiandi F, Mantilidewi KI, Hidayat YM, Harsono AB, Suardi D, Salima S, et al. A Rare Case of Early Transformation of Gestational Trophoblastic Neoplasia Following Molar Pregnancy. *Am J Case Rep.* 2021;22:e930789. doi:10.12659/AJCR.930789.
15. Fu J, Fang F, Xie L, Chen H, He F, Wu T, et al. Prophylactic chemotherapy for hydatidiform mole to prevent gestational trophoblastic neoplasia. *Cochrane Database Syst Rev.* 2012;10(10):7289. doi:10.1002/14651858.CD007289.pub.
16. Charry RC, Maestá I, Bianconi M. Presentation and management of molar pregnancy and gestational trophoblastic neoplasia in Latin America. In: *Gestational trophoblastic disease*. 4th edn. vol. 4. Orange: International Society for the Study of Trophoblastic Diseases; 2015. p. 1–15.
17. Andreassen L, Christiansen OB, Niemann I, Bolund L, Sunde L. NLRP7 or KHDC3L genes and the etiology of molar pregnancies and recurrent miscarriage. *Mol Hum Reprod.* 2013;19(11):773–81.
18. A A, editor. Ibadan: Heinemann Educational Books (Nigerian) Plc; 2006. Trophoblastic tumours. Textbook of Obstetrics and Gynaecology for Medical Students; p. 218–242.
19. Audu BM, Takai IU, Chama CM, Bukar M, Kyan O. Hydatidiform mole as seen in a university teaching hospital: a 10-year review. *J Obstet Gynecol.* 2009;29(4):322–5.

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