The Nigerian Journal of GENERAL PRACTICE

Original Article

Molar Pregnancy in Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria: a 10 -Year Review.

[1]Echezona Ikenna Onyekwelu, [1]Ikechukwu Innocent Mbachu, [1]Ifeanyi Ogochukwu Okonkwo, [1]Kenechukwu Ezekwesili Obi, [1]Chiemezie Mac-Kingsley Agbanu, [1]Odigonma Zinobia Ikpeze, [1]Chukwuemeka Chukwubuikem Okoro, [2]Peter Ekwueme

[1] Department of Obstetrics and Gynecology, Nnamdi Azikiwe University Teaching Hospital, Nnewi.
[2]Department of Community Medicine, University of Nigeria Teaching Hospital, Ituk Ozalla

Abstract

Background: Molar pregnancy, also known as hydatidiform mole, is a type of gestational trophoblastic disorder that normally arises from disorders of placental trophoblastic tissue proliferation. If not properly managed, it can be an important cause of maternal morbidity and mortality. **Objective:** This study was to determine the prevalence and clinical outcome of molar pregnancies in Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria. **Materials and Methods:** This is a retrospective study of all cases of molar pregnancies managed in Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, South-east Nigeria, from January 1, 2012 to December 31, 2021 (ten-year period). Folders of patient managed for molar pregnancy during the study period served as source of data. Data were analyzed using Statistical Package for the Social Sciences (SPSS) 26.0 IBM Corporation. **Result:** A total of 56 cases of molar pregnancies were diagnosed and managed within the 10-year review period, with a total delivery of 8194 giving a prevalence of 0.7% or 7 per 1000 deliveries. Within the same period, there were 5892 gynaecological admissions and molar pregnancy accounted for 1%. The mean age of the patients was 29.4 ± 4.4 years, however, most of the patients (73%) were within the age range of 26-35 years. Most of the patients managed presented in their first trimester (73%) with the commonest presenting complaints being amenorrhoea (100%), vaginal bleeding (94%) and abdominal pain (77%). The commonest complication recorded was anaemia (92%) while ultrasonography was instrumental in the diagnosis of 92% of cases. Majority of the patients (96%) were treated through suction evacuation while 4% were offered hysterectomy. More than 80% of those treated for molar pregnancies used contraception afterward with most of them favouring the male barrier method. Only 69% of the patients were followed up for at least 6 months, while 8% of the patients were followed up for more than 6 months and 21% of the patients were lost to follow up. The case fatality rate for this study was 2%. **Conclusion:** Molar pregnancy accounted for 1% of all gynaecological admissions with an incidence of 7 per 1000 deliveries. It continues to be a significant contributor to maternal mortality and morbidity at our facility. Early recognition, immediate referral, and appropriate management will go a long way to curb the maternal mortality and morbidity from molar pregnancy. Proper patient education and adequate patient follow-up should also be reinforced.

Key Word: Molar pregnancy, Prevalence, NAUTH Nnewi

Address for correspondence author: Echezona Ikenna Onyekwelu, Department of Obstetrics and Gynecology, Nnamdi Azikiwe University Teaching Hospital, Nnewi. 0806 486 2997. Email: onyekwelu_echezona@yahoo.com
ORCID: https://orcid.org/0009-0005-4625-8407

DOI: https://doi.org/10.60787/njgp.v22i2.233

How to cite: Onyekwelu EI, Mbachu II, Okonkwo IO, Obi KE, Agbanu CM, Ikpeze OZ, Okoro CC, Ekwueme P. Molar pregnancy in Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria: a 10 -year review. NJGP. 2024;22(2):87-95.

Quick Response Code:

Introduction

Molar pregnancy, also known as hydatidiform mole, is a type of gestational trophoblastic disorder that normally arises from disorders of placental trophoblastic tissue proliferation[1,2,3]. Complete and partial hydatidiform moles are the two subtypes of molar pregnancy[4,5]. Though typically regarded as benign and noninvasive, hydatidiform moles are actually premalignant and have the potential to develop into invasive, malignant lesions[5].

The incidence of molar pregnancy varies widely[2,4,6] however, Asian nations have long reported substantially greater incidence of molar pregnancy than European or North American nations[2]. The incidences in the United States, United Kingdom and Japan are 1 per 1000, 1.5 per 1000 and 2 per 1000 respectively while in Nigeria, the incidences for North-western and South-eastern region are 3.8 per 1000 deliveries and 4.7 per 1000 deliveries respectively[2,4].

The risk factors of molar pregnancy include: maternal age (greater than 35 years and younger than 20 years), positive history of molar pregnancy in the past, previous miscarriage and infertility, lack of vitamin A in diets[2,5,6].

A history of amenorrhea, vaginal bleeding, and spontaneous passing of grape-like vesicles, uterine size greater than date, hyperemesis gravidarum, pre-eclampsia, hyperthyroidism and symptomatic theca lutein cysts are common clinical features of hydatidiform mole[2,5].

Though this diagnosis should be suspected in any woman of reproductive age with abnormal vaginal bleeding, it is typically not diagnosed until after uterine evacuation is done for an abnormal pregnancy[2]. If any of the typical clinical signs of molar pregnancy are present, the index of suspicion should be raised. With sensitive serum hCG assay and ultrasonography, usually in the first trimester, a diagnosis of hydatidiform mole can be made. On ultrasound, a complete molar pregnancy can be distinguished by the absence of fetal components, an unusual gestational sac, and a core heterogeneous placental mass with numerous anechoic gaps or holes most commonly referred to as a "snowstorm" appearance[2,4,5].

The line of management is determined by the histopathological type. The most common treatment for hydatidiform moles is suction evacuation. Others are chemotherapy, hysterectomy, radiotherapy, or a combination of these. According to the Royal College of Obstetricians and Gynaecologists, complete molar pregnancies should be treated by suction evacuation while for partial molar pregnancies, medical termination is advised as fetal parts present might obstruct suction evacuation[4].

The American College of Obstetricians and Gynecologists recommends serial quantitative hCG monitoring at the following intervals in all patients with molar pregnancy: 48 hours after uterine evacuation, once every 1-2 weeks when raised, and then once a month for an additional 6 months once standardized (usually 5 mIU/mL)[4].

Despite the maternal morbidity and mortality linked to molar pregnancy, it is highly understudied hence the reason for this study which aims to identify the prevalence and clinical outcomes of molar pregnancy in Nnamdi Azikiwe University Teaching Hospital, Nnewi.

Materials and Methods

This is a retrospective study of all cases of molar pregnancies managed in Nnamdi Azikiwe University Teaching Hospital (NAUTH), Nnewi, South-east Nigeria, from January 1, 2012 to December 31, 2021 (ten-year period). The details of all the cases of molar pregnancy managed in NAUTH over the study period were obtained from the gynaecology ward and operating theatre registers. The total number of gynaecological admissions and deliveries were also

obtained from the gynaecology ward and labour ward registers respectively. The data collected included the folder number, age, parity, marital status, highest level of education and gestational age at presentation, the risk factors, clinical presentations, laboratory results, treatment, follow-up and the complications of molar pregnancy. Data were analyzed using SPSS 26.0 IBM Corporation and presented in tables.

Study population: The study was among all women who were managed in NAUTH who had a diagnosis of molar pregnancy in the last 10 years.

Study site: The Obstetrics and Labour ward of Nnamdi Azikiwe University Teaching Hospital, Nnewi was the study site. This is an accredited residency training center with the requisite staff to offer optimal obstetric care. The staff ranges from many consultant obstetricians and resident doctors (registrars and senior registrars). It serves as a referral center for hospitals within Anambra, parts of Imo, Enugu and Delta state.

Inclusion criteria: Women that had molar pregnancy and were managed in NAUTH, Nnewi.

Exclusion criteria: Those without complete clinical data were excluded

Ethical approval: Approval was obtained from the NAUTH, Nnewi Ethics committee. No written informed consent was required.

Result

Within the 10-year review period from January 1, 2012 to December 31, 2021, there were a total of 8194 deliveries and 5892 gynaecological admissions. A total of 56 cases of molar pregnancies were diagnosed and managed within the 10-year review period however, only 52 folders (93%) were retrieved from the Medical Records Department of NAUTH. This gave a molar pregnancy incidence of 0.7%. Also, within the review period, molar pregnancy accounted for 1% of all gynaecological admissions.

The mean age of the patients was 29.4 ± 4.4 years. 73% of the cases were within the age of 26-35 years while the age range of 21-25 and 36-40 accounted for 19% and 8% respectively. This is shown in **table 1**.

TABLE 1: Age Distribution of the 52 Cases of Molar Pregnancy Studied

S/N	AGE (YEARS)	FREQUENCY	PERCENTAGE
1	21 – 25	10	19
2	26 – 30	21	40
3	31 – 35	17	33
4	36 – 40	4	8
	TOTAL	**52**	**100**

The parity distribution of the patients managed for molar pregnancy in the study period ranged between 0 and 6. Majority of the cases were primipara accounting for 33%, followed closely

by nulliparas who accounted for 29%. The para 2 and para 3 accounted for 11% each while P4 accounted for 6%. The grand multiparas accounted for the remaining 10%. This is shown in **table 2**.

TABLE 2: Parity Distribution of the 52 Cases of Molar Pregnancy Studied

S/N	PARITY	FREQUENCY	PERCENTAGE
1	0	15	29
2	1	17	33
3	2	6	11
4	3	6	11
5	4	3	6
6	>4	5	10
	TOTAL	**52**	**100**

Most of the patients reviewed in this study were in their first trimester (73%) while the rest were in their second trimester. This is illustrated in **table 3**

TABLE 3: Gestational Age (Weeks) Distribution of the 52 Cases of Molar Pregnancy Studied

S/N	PRESENTING COMPLAINTS	FREQUENCY	PERCENTAGE
1	First trimester	38	73
2	Second trimester	14	27
	TOTAL	52	100

As shown in **table 4**, amenorrhoea was the commonest presenting complaint as 100% of the patients presented with amenorrhoea. Abnormal vaginal discharge was the 2nd most common complaint and as 94% of the patients presented with that complaint. 77% of the patients presented with abdominal pains while 63% presented with symphysiofundal heights greater than the estimated gestational age. Finally, 37% presented with hyperemesis gravidarum.

TABLE 4: The Distribution of the Clinical Presentation of the 52 Cases of Molar Pregnancy Studied

S/N	PRESENTING COMPLAINTS	FREQUENCY	PERCENTAGE
1	Amenorrhoea	52	100
2	Vaginal bleeding	49	94
3	Abdominal pain	47	77
4	Symphysiofundal height > estimated GA	33	63
5	Hyperemesis gravidarum	19	37

The most common complication was anaemia (92%). Other complications seen were hypertension (37%), pre-eclampsia (10%), hyperthyroidism (6%) and shock (4%). This is shown in **table 5.**

TABLE 5: Distribution of the Common Complications among the 52 Cases of Molar Pregnancy Studied

S/N	COMPLICATIONS	FREQUENCY	PERCENTAGE
1	Anaemia	48	92
2	Hypertension	19	37
3	Pre-eclampsia	5	10
4	Hyperthyroidism	3	6
5	Shock	2	4

Ultrasonography was instrumental in the diagnosis of hydatidiform mole in 92% of cases reviewed

Of all the patients, 96% were treated through suction evacuation while 4% of the patients were offered hysterectomy. This was because of the refractory bleeding encountered. Only 1 of the patients studied was offered chemotherapy. This is shown in **table 6.**

TABLE 6: Treatment Modality of the 52 Cases of Molar Pregnancy Studied

S/N	TREATMENT	FREQUENCY	PERCENTAGE
1	Suction evacuation	50	96
2	Hysterectomy	2	4
	TOTAL	**52**	**100**

As shown in **table 7**, only 36 (69%) of the patients were followed up for at least 6 months, while 4 (8%) of the patients were followed up for more than 6 months and 11 (21%) of the patients were lost to follow up.

TABLE 7: Follow up for the 52 Cases of Molar Pregnancy Studied

S/N	FOLLOW UP	FREQUENCY	PERCENTAGE
1	Less than 6 months	36	69
2	6 months or more	4	8
3	Lost to follow up	11	21

More than 80% of those treated for molar pregnancies used contraception afterward with most of them favouring the male barrier method.

There was 1 maternal mortality from molar pregnancy within the period of the study giving a case fatality rate of 2%.

Discussion

It is challenging to estimate the incidence of molar pregnancy, which varies greatly in different parts of the world[2,4,6,7,8,9,10,11]. The incidence of molar pregnancy in this study was 0.7% or 7 in 1000 deliveries. This was exactly in keeping with a study done in Iran[12] but was however marginally higher than incidences in studies done in Ile-Ife (3.5 per 1000 deliveries)[9], Calabar (3.6 per 1000 deliveries)[8] and Anambra (4 per 1000 deliveries)[10]. However, the incidence gotten in this study was way higher than the incidence of molar pregnancy in developed countries; Italy (2.08 per 1000 deliveries)[15] Denmark (1.98 per 1000 deliveries)[13], South Korea (1.1 per 1000 deliveries)[14]. Our Center is the biggest tertiary hospital in Anambra state and as such is the point of referral for most hospitals. This might have contributed to the higher incidence in this study.

The study revealed that most of the patients managed within this 10-year review were in their first trimester (73%). This is in keeping with previous studies[8,10], and further emphasizes the need for early ultrasound examination in all pregnancies as a significant number of patients with molar pregnancy can be identified even without the presence of symptoms[16,17].

The commonest presenting complaint was amenorhoea (100%), vaginal bleeding (94%) and abdominal pain (77%). This is similar to findings in literatures[4,5,8-10,18-20] and highlights the importance of proper investigations and management for cases of vaginal bleeding especially in first trimester.

The commonest complication revealed by this study was anaemia (92%) and this was not surprising as almost all the patients presented late and with vaginal bleeding. Anaemia was also the commonest complication in the previous literatures[4,8,17,18,20].

Majority of the patients (96%) were treated with suction evacuation of the uterine contents and only 2 (4%) of the patients reviewed were offered hysterectomy. This was because of the refractory bleeding encountered in those patients. The Royal College of Obstetricians and Gynaecologists recommends that suction evacuation is the recommended line of management for molar pregnancies except in cases of partial molar pregnancies where size of fetal part might obstruct suction[21]. Most literatures reviewed also offered suction evacuation as the first line of management in their centers[4,8,10,18,19]. One of the patients was offered chemotherapy secondary to post evacuation bleeding. Studies have shown that the incidence of post-molar gestational trophoblastic disease may be decreased with prophylactic chemotherapy[10]. In high-risk group of women, preventive chemotherapy is also known to be helpful as it lowers morbidity and avoids metastases[10]. The failure of beta hCG to return to normal by the stipulated time of 10–12 weeks, re-elevation of beta hCG post–evacuation, and evidence of metastases regardless of beta hCG level are the other indications for prophylactic chemotherapy in hydatidiform mole.

Unfortunately, in this study there was only one fatality (a case fatality of 2%). This resulted from acute hypovolemic shock from severe uterine bleeding. Similar finding was noted in Calabar by Christopher U et all who noted a case fatality rate of 1.47%[8]

While 21% of the patients were lost to follow up, 69% of them had less than 6 months follow up and just 8% were followed up for 6 months or more. American College of Obstetricians and Gynecologists (ACOG) recommends serial quantitative hCG monitoring in all patients with molar pregnancy at the following intervals: within 48 hours of uterine evacuation, every 1–2 weeks while elevated and every month for an additional 6 months once normalized. This study was not in keeping with the ACOG recommendation. However, poor follow up has been noted in our locality[8,10].

Limitations

Being a retrospective study, one of the limitations of this study was the fact that all the folders of the patients could not be retrieved and this weakened the strength of the study.

Conclusion

Molar pregnancy accounted for 1% of all gynaecological admissions with an incidence of 7 per 1000 deliveries. Early recognition, immediate referral, and appropriate management will go a long way to curb the maternal mortality and morbidity from molar pregnancy. Proper patient education and adequate patient follow-up should also be reinforced.

References

1. De Franciscis P, Schiattarella A, Labriola D, et al. A partial molar pregnancy associated with a fetus with intrauterine growth restriction delivered at 31 weeks: A case report. *J Med Case Rep*. 2019;13(1):1-5. doi:10.1186/s13256-019-2150-4.
2. Tenney ME. Molar Pregnancy. *Non-Obstetric Surg Dur Pregnancy*. Published online 2019:335-354. doi:10.1007/978-3-319-90752-9_27
3. Albright BB, Shorter JM, Mastroyannis SA, Ko EM, Schreiber CA, Sonalkar S. Gestational Trophoblastic Neoplasia after Human Chorionic Gonadotropin Normalization Following Molar Pregnancy: A Systematic Review and Meta-analysis. *Obstet Gynecol*. 2020;135(1):12-23. doi:10.1097/AOG.0000000000003566
4. Ikechukwu OH, Usman HA, Onuegunam NS. A Five-Year Retrospective Study of Gestational Trophoblastic Disease at University of Maiduguri Teaching Hospital Maiduguri, Nigeria. *Int J Sci Healthc Res*. 2021;6(2):228-234. doi:10.52403/ijshr.20210441.
5. Ghassemzadeh S, Farci F, Kang M. Hydatidiform Mole. [Updated 2022 May 23]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK459155/
6. Tantengco OAG, De Jesus FCC, Gampoy EFS, Ornos EDB, Vidal MS, Cagayan MSFS. Molar pregnancy in the last 50 years: A bibliometric analysis of global research output. *Placenta*. 2021;112(July):54-61. doi:10.1016/j.placenta.2021.07.003
7. Simms-Stewart D, McDonald G, Fletcher H, et al. A review of molar pregnancy at the university hospital of the West Indies over a 16-year period. *J Obstet Gynaecol (Lahore)*. 2013;33(3):298-300. doi:10.3109/01443615.2012.753420
8. Christopher U, Ago B, Efiok E, Ebughe G, Nnorom F. A Ten Year Review of Hydatidiform Mole in University of Calabar Teaching Hospital Nigeria. *J Gynecol Obstet*. 2015;3(4):88. doi:10.11648/j.jgo.20150304.14
9. Ajenifuja K, Akadiri O, Okunola T, Ajayi M, Bakare B, Onwudiegwu U. Outcomes and challenges in the management of gestational trophoblastic disease in a tertiary institution in Nigeria. *Trop J Obstet Gynaecol*. 2015;32(1):143-149. https://www.ajol.info/index.php/tjog/article/view/118195
10. 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. doi:10.4103/2141-9248.113664
11. Goldstein DP, Berkowitz RS, Horowitz NS. Molar Pregnancy and Gestational Trophoblastic Neoplasia. *Holland-Frei Cancer Med*. Published online 2017:1-7. doi:10.1002/9781119000822.hfcm107
12. Almasi A, Almassinokiani F, Akbari P. Frequency of molar pregnancies in health care centers of Tehran, Iran. *J ReprodInfertil*. 2014;15(3):157-160
13. Lund H, Vyberg M, Eriksen HH, Grove A, Jensen AØ, Sunde L. Decreasing incidence of registered hydatidiform moles in Denmark 1999–2014. *Sci Rep*. 2020;10(1). doi:10.1038/s41598-020-73921-4
14. Yuk JS, Baek JC, Park JE, Jo HC, Park JK, Cho IA. Incidence of gestational trophoblastic disease in South Korea: A longitudinal, population-based study. *PeerJ*. 2019;2019(2):1-11. doi:10.7717/peerj.6490
15. Joneborg U, Folkvaljon Y, Papadogiannakis N, Lambe M, Marions L. Temporal trends in incidence and outcome of hydatidiform mole: a retrospective cohort study. *Acta Oncol (Madr)*. 2018;57(8):1094-1099. doi:10.1080/0284186X.2018.1438653
16. Ross JA, Unipan A, Clarke J, Magee C, Johns J. Ultrasound diagnosis of molar pregnancy. *Ultrasound*. 2018;26(3):153-159. doi:10.1177/1742271X17748514

17. Zakaria A, Hemida R, Elrefaie W, Refaie E. Incidence and outcome of gestational trophoblastic disease in lower Egypt. *African health sciences*. 2020 Apr 20;20(1):73-82
18. Yakasai I. Gestational Trophoblastic Diseases in a Teaching Hospital in Northern, Nigeria. *Am J Biosci*. 2015;3(1):7. doi:10.11648/j.ajbio.20150301.12
19. Kolawole A, Nwajagu J, Oguntayo A, Zayyan M, Adewuyi S. Gestational trophoblastic disease in Abuth Zaria, Nigeria: A 5-year review. *Trop J Obstet Gynaecol*. 2016;33(2):209. doi:10.4103/0189-5117.192228
20. Wairachpanich V, Limpongsanurak S, Lertkhachonsuk R. Epidemiology of hydatidiform moles in a Tertiary Hospital in Thailand over two decades: Impact of the national health policy. *Asian Pacific J Cancer Prev*. 2016;16(18):8321-8325. doi:10.7314/APJCP.2015.16.18.8321
21. Bw H. Management of Gestational Trophoblastic Disease: Green-top Guideline No. 38 – June 2020. *BJOG An Int J Obstet Gynaecol*. 2021;128(3):e1-e27. doi:10.1111/1471-0528.16266