Original Article

An Evaluation of the Characteristics of Patients with Gestational Choriocarcinoma in South-South, Nigeria

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Abstract

Background: Gestational trophoblastic diseases have been generally associated with the good outcome, especially in developed countries where early presentation and diagnosis is the norm. **Objective:** This study seeks to determine the characteristics of patients with gestational choriocarcinoma at the University of Port Harcourt Teaching Hospital (UPTH), Nigeria. **Methods:** This was a retrospective study of women who were treated for gestational choriocarcinoma at the UPTH over a 5-year period from January 1, 2008 to December 31, 2012. **Results:** A total of 13 cases of gestational choriocarcinoma were treated in UPTH during the study period, and there were 16,720 deliveries giving a prevalence of 0.8/1000 deliveries. The majority of patients (76.9%) were of low socioeconomic class. 92.3% of patients presented with amenorrhea for 28 weeks. Histological examination of tissues extracted from previous miscarriages was not performed in 100% of patients. Eighty percent of all mortalities were associated with antecedent pregnancies being miscarriages. All patients managed were lost to follow-up within 32 weeks. **Conclusion:** Gestational choriocarcinoma in Port Harcourt is associated with high mortality. Most patients with choriocarcinoma were of low socioeconomic class, presented late with lack of histological examination of previously extracted products of conception. Most of the patients were lost to follow-up within 32 weeks.

Key words: Characteristics, gestational choriocarcinoma, Port Harcourt

Introduction

Gestational trophoblastic disease refers to a spectrum of inter-related but histologically distinct tumors originating from the placenta.[1] This disease is characterized by a reliable tumor marker-β-subunit of human chorionic gonadotropin (β-hCG) and has varying tendencies towards local invasion and spread. Choriocarcinoma, a malignant component of this condition involves both the syncytiotrophoblast and cytotrophoblast with a large amount of β-hCG produced.[2]

The prevalence of choriocarcinoma vary from region to region, and remarkable successes had been recorded in treatment centers with success rates getting up to 80–95% in some treatment centers, which is unparalleled in cancer therapy.[3,4] There exist variations in the characteristics of patients and the successes recorded. High success rates have been recorded in developed countries as against the developing countries where mortality of 13.3–53.3% have been documented.[5,6] This disparity could be attributed to good health seeking behavior, early presentation and the presence of specialized centers in the management of this condition in most developed countries.

The University of Port Harcourt Teaching Hospital (UPTH) as a referral hospital in South-South Nigeria serves as referral center for specialized care and it is on the basis of this, that this study sort to evaluate the characteristics of patients that presented with gestational choriocarcinoma at the UPTH.

Methods

This was a retrospective study of women who were treated for gestational choriocarcinoma in the UPTH over a 5-year period from January 1, 2008 to December 31, 2012. Permission for the study was obtained from the Ethics Committee of the

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hospital through the Head of the Departments of Obstetrics and Gynecology and medical records for the conduct of this research. The number of deliveries during the 5-year period was extracted from the departmental annual report records. The folder numbers of all the women who were managed for gestational choriocarcinoma within this period were obtained from the gynecological and theatre ward records and with the folder numbers the case files of these patients were obtained from the medical records department and relevant information were retrieved. The information obtained were: Age, occupation, educational level, husband's occupation, parity, gestational age at diagnosis, antecedent pregnancy, history of histological analysis of product of conception during miscarriage, method of diagnosis of choriocarcinoma, uterine size, ultrasound finding, type of chemotherapy, follow-up of treatment and the mortality during the study period. The socioeconomic status was determined using the Olusanya's classification method, which takes into account the patient's level of education and her husband's occupation.[7] The information obtained were entered and analyzed using SPSS 15.0 Software Package (IBM, Armonk, NY, USA). Relevant descriptive statistics like frequency and percentage were computed for the presentation of categorical variables while continuous variables were presented by the mean and standard deviation. Chi-square test was used to compare categorical variable with $P < 0.05$ as significant.

Results

There were 16,720 deliveries in UPTH during the period of this review, and 13 cases of gestational choriocarcinoma were managed to give a prevalence of 0.8/1000 deliveries. The age range of the patients was 17–40 years with a mean of 32.38 ± 6.2 years. The mean parity was 2.23 ± 1.4. The gestational age at presentation was 28 weeks and above in 12 (92.3%) of the patients. Ten (76.9%) were of low socioeconomic class while the high social economic class was observed in 7.7% (1) of the patients. The other sociodemographic parameters are stated in Table 1.

Table 2 shows the relationship between the antecedent pregnancies and histological examination of the products extracted from the previous pregnancies. Nine (69.2%) of all antecedent pregnancies were miscarriages while 4 (30.8%) were molar pregnancies. Among patients with antecedent pregnancies being miscarriages, 9 (100%) had no histological examination of the products extracted while among the molar pregnancies 1 (25%) had their uterine extracts examined.

Concerning mortality, 5 (38.5%) died of the condition while 8 (61.5%) were alive. Among the patients that died 75% (4) had antecedent pregnancies being miscarriages while 1 (25%) was a molar pregnancy. Among survivors, four each had molar and miscarriages as antecedent pregnancies; none had term antecedent pregnancies amongst the patients that survived the treatment. This is highlighted in Table 3.

Table 1: Sociodemographic characteristics

	Frequency (%)
Age (years)	
15-24	1 (7.7)
25-34	9 (69.2)
35-44	3 (23.1)
45-54	0 (0)
Socioeconomic status	
Low	10 (76.9)
Middle	2 (15.4)
High	1 (7.7)
Period of amenorrhea at presentation	
≤13	0 (0)
14-27	1 (7.7)
≥28	12 (92.3)

Table 2: Antecedent pregnancies and histological examination of products extracted

Pregnancy	Frequency (%)	Histology performed	Histology not performed
Miscarriage	9 (69.2)	0	9
Molar pregnancy	4 (30.8)	3	1

Table 3: Outcome of choriocarcinoma and antecedent pregnancy

	Miscarriage	Molar	Total
Alive	4	4	8
Dead	4	1	5
Total	8	5	13

P=0.3

Table 4: Follow-up and drop-out rate

Follow-up months in weeks	0	4	16	18	24	32
Uptake	4	1	0	1	3	0
Drop-out	3	6	7	6	4	7

Comparison of the socioeconomic status and outcome of choriocarcinoma between low socioeconomic class and higher class showed an odds ratio (OR) =2.0; and $P = 0.5$.

Table 4 shows the follow-up schedule of patients that had chemotherapy. It showed that at 32 weeks of follow-up all the patients dropped out of the follow-up schedule. Comparing the start of the follow-up and the 32 weeks this was found to be statistically significant ($P = 0.03$).

Discussion

Gestational choriocarcinoma is of great interest because of its excellent prognosis if diagnosed and treated early with the preservation of childbearing ability. The mortality rate of 38.5% noted in this study is similar to the mortality rate

reported in other studies with similar sociodemographic indices[5,6] but higher than the reports from developed nations where early diagnosis and treatment is feasible with good prognosis.[4,8,9]

The influence of economics in the management of low-risk gestational trophoblastic neoplasm evaluated by Shah *et al*.[10] showed that to achieve cure in this group of patients would cost 4867 dollars and a review of the patients managed in this study showed that 76.9% of patients with choriocarcinoma were of low socioeconomic class increasing the burden of care for this category of patients. Areas that may be influenced by the poor status of these patients could include delays in the provision of drugs, blood for correction of anemia in addition to being unable to carry out requested investigations. A comparison of the socioeconomic status and outcome of choriocarcinoma showed that the risk of death is 2 times higher in patients of low socioeconomic when compared with higher class (OR = 2.0; $P = 0.5$). It is also worthy of note that all mortalities were experienced in patients of low socioeconomic class. This finding is further buttressed in other studies, which identified the low socioeconomic class to be associated with advanced stage of the disease and a strong indicator of mortality because of less aggressive cancer therapy.[11]

The majority of the patients with a gestational choriocarcinoma had had antecedent miscarriages with the previous evacuation of the products of conception for miscarriages in peripheral hospitals. It is worthy of note that the health care providers sent none of what was evacuated at the peripheral hospitals for histological analysis. It is of great concern that precursors of choriocarcinoma may have been missed hence removing the patients from medical surveillance. The window of opportunity for early diagnosis was completely missed in these patients thus prolonging the clinical symptoms/diagnosis interval hence worsening the prognosis of the patients. This was found to be statistically significant ($P = 0.01$).

The period of amenorrhea in most patients was >28 weeks which is higher than 11.5 weeks reported in Tunisia[12] but similar to the report from Nnewi.[5] This contrasts with the current trend in the developed world where the majority of the cases were diagnosed early in pregnancy at the asymptomatic stage due to the routine use of ultrasound in early pregnancy.[13,14] The health facilities in the developed world are more equipped and better utilized by the population. In the developing world like ours, lack of awareness, poverty, cultural myths and poor health-seeking behavior among our people significantly contributes to late presentation and diagnosis. Even when they present to a health facility as a result of persisting symptoms, diagnosis is delayed due to lack of specialist care, facilities and low index of suspicion.

The follow-up pattern of the patients that were treated was unpredictive as many did not keep up with the scheduled appointments. A comparison of the uptake and drop-out rate from the start of follow-up and 8 months afterwards showed that all patients would be lost to follow-up during this period ($P = 0.03$). This observation is similar to findings in other centers, where about 22.2–46.7% of patients are lost to follow-up within 12 to 2 years of follow-up.[5,6] This absence of follow-up increases the risk of late detection of relapse and negates early treatment that further increases the risk on the patient. Most management teams may not have emphasized to patients the need for them to continue the follow-up protocol. There may be need to involve psychologist to provide counseling as part of the treatment protocol for the treatment of such patients to improve outcome. The practice of prophylactic use of chemotherapy postmolar evacuation has remained controversial, however, prophylactic chemotherapy may be a viable option in our setting because of poor follow-up of our patients who had had molar pregnancy, and this is corroborated in other studies.[5,15,16] The option of hysterectomy should be looked into, in patients with early disease and completed family size based on the peculiarity of the circumstances.

The study is limited by the fact it is hospital based, for which its findings may not representative of the general population. Hence community-based studies are thus advocated. This would also increase the study population for additional analysis to be made.

Conclusion

Despite the fact that gestational choriocarcinoma is generally associated with good outcome, the characteristics of patients evaluated showed that prognosis is poor. The prognosis associated with this malignancy can be improved with the establishment of social service funds dedicated to indigent patients, which resolves the bottleneck of lack of funds to procure medications. In addition, the provision of health insurance scheme involving cancer treatment may assist to combat this menace. The outcome of this suggestion is evident in Canada where the cancer treatment outcome had improved because of universal health coverage as opposed to that in the United States of America in the same sociodemographic category of patients.[17] The importance histological examination of products of conception should be encouraged to ensure that the medical radar is beamed on people at risk of possible precursors of choriocarcinoma. Improved health seeking behavior, female education/empowerment, provision of affordable diagnostic tools and a high index of suspicion will help reduce the complications of the disease and reduce the mortality rate. The posttreatment follow-up of our patients should be improved upon via appropriate counseling of affected patients.

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Conflicts of interest

There are no conflicts of interest.

References

1. Aghajanian P. Gestational trophoblastic diseases. In: DeCherney AH, Nathan L, Goodwin TM, Laufer N, editors. Current Obstetrics and Gynaecologic Diagnosis and Treatment. 10th ed. New York: McGraw-Hill; 2007. p. 885-6.
2. Mazur MT, Kurman RJ. Choriocarcinoma and placental site tumor. In: Szulman AE, Buchsbaum HJ, editor. Gestational Trophoblastic Disease. New York: Springer-Verlag; 1985. p. 45.
3. Hertz R, Lewis J, Lipsett MB. Five years experience with chemotherapy of metastatic choriocarcinoma and related trophoblastic tumors in women. Am J Obstet Gynaecol 1961;82:631.
4. Izhar R, Aziz-un-Nisa. Prognosis of gestational choriocarcinoma at Khyber Teaching Hospital Peshawar. J Ayub Med Coll Abbottabad 2003;15:45-8.
5. Mbamara NJ, Obiechina GU, Akabuike CJ, Umeononihu OS. Gestational trophoblastic disease in a tertiary Hospital in Nnewi, South Eastern Nigeria. Niger Med J 2009;50:87-9.
6. Dim CC, Ezegwui HU. Choriocarcinoma in Enugu, South east Nigeria: A need for a shift from mortality to survival. Niger J Med 2013;22:252-6.
7. Olusanya O, Okpere E, Ezimokhai M. The importance of social class in voluntary fertility control. West Afr J Med 1985;4:205-12.
8. FIGO Committee on Gynecologic Oncology. Current FIGO staging for cancer of the vagina, fallopian tube, ovary, and gestational trophoblastic neoplasia. Int J Gynaecol Obstet 2009;105:3-4.
9. Newland ES. Presentation and management of persistent gestational trophoblastic disease and gestational trophoblastic tumors in the UK. In: Hancock BW, Newlands ES, Berkowitz RS, Cole LA, editors. Gestational Trophoblastic Disease. 3rd ed. London: International Society for the Study of Trophoblastic Disease for the Study; 2003. p. 279-98. Available from: http://www.isstad.org\isstd\book: html. [Last accessed on 2015 May 23].
10. Shah NT, Barroilhet L, Berkowitz RS, Goldstein DP, Horowitz N. A cost analysis of first-line chemotherapy for low-risk gestational trophoblastic neoplasia. J Reprod Med 2012;57:211-8.
11. Byers TE, Wolf HJ, Bauer KR, Bolick-Aldrich S, Chen VW, Finch JL, *et al.* The impact of socioeconomic status on survival after cancer in the United States: Findings from the National Program of Cancer Registries Patterns of Care Study. Cancer 2008;113:582-91.
12. Mourali M, Fkih C, Essoussi-Chikhaoui J, Ben Haj Hassine A, Binous N, Ben Zineb N, *et al.* Gestational trophoblastic disease in Tunisia. Tunis Med 2008;86:665-9.
13. Thirumagal B, Sinha D, Raghavan R, Bhatti N. Gestational trophoblastic neoplasia: Are we compliant with the standards? J Obstet Gynaecol 2009;29:434-6.
14. Anuma ON, Umeora OU, Obuna JA, Agwu UM. Profiling gestational trophoblastic disease in a tertiary Hospital in South-East Nigeria. Trop J Obstet Gynaecol 2009;26:151-64.
15. Osamor JO, Oluwasola AO, Adewole IF. A clinico-pathological study of complete and partial hydatidiform moles in a Nigerian population. J Obstet Gynaecol 2002;22:423-5.
16. Roos LL, Magoon J, Gupta S, Chateau D, Veugelers PJ. Socioeconomic determinants of mortality in two Canadian provinces: Multilevel modelling and neighborhood context. Soc Sci Med 2004;59:1435-47.
17. Gorey KM, Holowarty EJ, Fehringer G, Laukkanen E, Richter NL, Meyer CM. An international comparison of cancer survival; relatively poor areas of Toronto, Ontario and three US metropolitan areas. J Public Health Med 2000;22(3):343-8.