

**GESTATIONAL TROPHOBLASTIC DISEASES IN NIGERIA.
A MULTICENTERED, HISTOPATHOLOGICAL STUDY.**

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ABSTRACT

Background: Gestational trophoblastic diseases are common in Nigeria especially among the reproductive age group.

Objective: This study aimed at identifying the age distribution and risk factors, and classifying the histopathological patterns of GTDs in Nigeria.

Methods: A retrospective study of GTDs carried out in the histopathology laboratory of three tertiary Hospitals in Nigeria, namely: University of Maiduguri Teaching Hospital; University of Ilorin Teaching Hospital and Nnamdi Azikiwe University Teaching Hospital, Nnewi from January 1993 to May 2004 inclusive. Case records of all GTDs diagnosed in all the three pathology departments were retrieved and evaluated with respect to age, risk factors and histopathological types.

Results: There were a total of 186 cases of GTDs. The peak age group was the 3rd decade

of life, with a mean age of 27.65years (7.6±SD).

Of the 92 patients, the common risk factors was oral contraceptive (69); previous history of GTDs (13); nulliparous (37) and multiparous (13). The commonest histopathological type of GTDs was partial mole with 120 cases (64.5 %), followed by choriocarcinoma 40 cases (21.5 %), complete mole 24 cases (12.9 %) and invasive mole 2 cases (1.1 %). The benign lesions were common and accounted for 78.5% while the malignant lesions accounted for 21.5 % of all cases of GTDs.

Conclusion: GTDs are relatively common in relation to diseases of the female genital tracts in Nigeria and the common presentation is the 3rd and 4th decades of life. Nulliparity and oral contraceptives are the common risk factors. However, the most frequent histopathologic pattern of GTDs is partial mole. The prognosis of GTDs is generally good when early diagnosis;

proper management with good follow-up is instituted. We employ all clinicians and the laboratories to readily provide the services of serum beta-hCG levels in managing these patients so that they can get the best health care services.

KEY WORDS: Gestational Trophoblastic Diseases, Histopathologic patterns, multicentered study.

INTRODUCTION

Gestational Trophoblastic Disease (GTD) is a heterogeneous group of neoplastic disorders arising from placental trophoblastic tissue after normal or abnormal fertilisation¹. The pathogenesis of GTDs is unique because the maternal tumour arises from fetal, and not maternal tissue². The WHO classification of GTD includes Hydatidiform mole (partial and complete), invasive mole, choriocarcinoma, placental site trophoblastic tumour, miscellaneous and unclassified trophoblastic lesions³. The epidemiology of GTD is unclear. There is a broad variation in the distribution of GTDs worldwide, with higher frequencies in some parts of Asia, the Middle East and Africa². There are strong risk factors for Hydatidiform mole (HM) and these include:- age, ethnicity and a prior history of a HM suggesting a genetic basis for its aetiology⁴. This study is aimed at identifying the age distribution, risk factors and classifying the hispathological patterns of GTDS in Nigeria.

PATIENTS AND MATERIALS

This is a retrospective study of GTD carried out in three tertiary Hospitals of Nigeria, namely: University of Maiduguri Teaching Hospital; University of Ilorin Teaching Hospital and Nnamdi Azikiwe University Teaching Hospital, Nnewi from January 1995 to May 2004 inclusive. The case notes were retrieved and information about the age, parity, history of previous GTDs, history of oral contraceptive pills and histological diagnosis were extracted from the case notes. The duplicate copies of all histological reports and their corresponding original slides were retrieved and reviewed. Fresh sections were prepared in cases where the original slides could not be retrieved and stained with Haematoxyline and Eosin [H&E] and examined by light microscopy. The data were analyzed in simple statistical tables.

RESULTS

Table 1 shows the age distribution of GTDS. The peak age incidence is the 3rd decade with a mean age of 27.65 years (7.6 SD) accounting for 94 cases (50.5 %) of all GTDs. Table 2 shows the risk factors of 92 patients. The commonest risk factor is history of oral contraceptive in 69cases, 13 cases of previous history of GTDS. The commonest parity associated with GTDs is Nulliparous (68.1%) and Multiparous (23.1%). Table 3 shows the histopathological types of GTDS, partial mole is the commonest type with

120 cases (64.5 %), followed by choriocarcinoma 40 cases (21.5 %), complete mole 24 cases (12.9 %) and invasive mole 2 cases (1.1 %). The benign lesions are common and accounted for 78.5% while the malignant lesions accounted for 21.5 % of all cases of GTDs.

Histopathological features of GTDs

Partial mole: The hydropic changes are focal and less prominent with little hyperplasia and no atypia of the surrounding trophoblast. Marked

scalloping of chorionic villi and trophoblastic stroma.

Complete mole: The chorionic villi are diffusely hydropic and surrounded by hyperplastic, often atypical, trophoblast.

Invasive mole: Are chorionic villi that penetrate the myometrium and or blood vessels.

Choriocarcinoma: Are sheet of anaplastic cytotrophoblasts and syncytiotrophoblasts without chorionic villi with areas of haemorrhagic necrosis.

Table 1.

Age Distribution of Gestational Trophoblastic Disease in 186 cases.

Age group	Frequency (%)
10-19	21(11.3)
20-29	94(50.5)
30-39	55(29.6)
40-49	11(5.9)
50-59	5(2.7)
TOTAL	186 (100)

Table 2.

Identified risk factors in 92 patients with GTDs

Oral contraceptive	69
Previous history of GTDs	13
Parity	
Nulliparous	37
Multiparous	13

Table 3. Shows the Histopathological types of GTDs in 186 cases

<u>Types of GTDs</u>	<u>Frequency(%)</u>
Partial mole	120(64.5)
Complete mole	24(12.9)
Invasive mole	2(1.1)
<u>Choriocarcinoma</u>	<u>40(21.5)</u>
<u>Total</u>	<u>186(100)</u>

DISCUSSION

GTD is not uncommon in Nigeria and this commonly affects women of reproductive age group with the peak age in the 3rd decade of life. The incidence of H.mole varies considerably in different regions of the world: 10 in 1000 in Indonesia⁵. Most cases of GTD occur in women under age 35years because of the greater number of pregnancies among younger women. The Hausas and Fulanis women of the Northern Nigeria married early in their teen age and that may be a contributory factor to the increase number in the 3rd decade. Assisted reproductive technology has enhanced the fertility of older women, which may increase the proportion of cases in this age group^{6,7}. The impact of this technology is yet to be felt in our environment because only 8.6% of these women with GTDs are from the 5th decades of life.

The risk factors for gestational trophoblastic disease are well known and have been extensively studied: these include nulliparity; extremes of maternal age (under 20 or over 35 years); abnormally elevated beta-hCG concentrations during pregnancy; history of previous GTD and oral contraceptive use^{8,9}.

Parity is a risk factor for Gestational Trophoblastic disease especially nulliparity, while increasing parity was a protective factor¹⁰. Our series shows 68.1% of nulliparous while 23.9% are multiparous women presented with GTDs. This is similar to other studies^{5,8}. Prolonged use of oral contraceptive pill is another risk factor for developing choriocarcinoma after a term pregnancy¹¹. Other risk factors that are associated with GTDs are increased serum beta – hCG by radioimmunoassay method is more accurate than other methods. The disease is best diagnosed and characterized histologically. However, the diagnosis of GTDs is associated with increased serum concentration of the beta subunit of Human chorionic gonadotrophin (Beta-hCG)¹².

The serum beta hCG was not used in this study because majority of the patients were not subjected to the investigation. There are also 13 cases of history of previous GTDs from this study the value is low and may be attributed to the nature of the study and poor follow-up of patients especially in our environment.

Hydatidiform mole is the commonest benign GTDs in this study accounting for 77.4%

of all cases (partial= 64.5% and complete=12.9%) and this is in consonance with other studies¹³. Recent advances in molecular biology of GTDs suggested that complete mole is unique conception in that all nuclear DNA is maternally derived. In contrast to partial mole where the extra haploid set of chromosomes is paternally derived¹⁴. Complete and partial mole can be identified by histologic, cytogenetic and flow cytometric studies¹⁵. Invasive mole is not common and only two cases were seen in this series. The tumour is benign but locally destructive and may invade parametrial tissue and blood vessels.

Malignant GTDs are highly malignant epithelial tumour occurs most often after a molar pregnancy (50 to 60 of cases); the remainder arise from other gestational events (e.g Abortion, intrauterine pregnancy, ectopic pregnancy)¹⁶. 21.5% of cases were reported in this series. However, choriocarcinoma is commoner in the 3rd and 4th decade of life because it is the reproductive age group.

In conclusion, GTDs are relatively common female genital tract diseases in Nigeria and the common presentation is the 3rd and 4th decades of life. Nulliparity and oral contraceptives are the common risk factors. However, partial mole is the most frequent histopathologic pattern of GTDs. The prognosis of GTDs is generally good when early diagnosis; proper management with good follow-up is instituted. We employ all clinicians and the laboratories to readily provide the services of

serum beta-hCG levels in managing these patients so that they can get the best health care services.

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