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ORIGINAL ARTICLE

Frequency of gestational trophoblastic disease at GMMMC Teaching Hospital, Sukkur.

Maria Abbasi[1], Safia Maqsood[2]

ABSTRACT… Objective: To determine the frequency of gestational trophoblastic disease at GMMMC Teaching Hospital, Sukkur. **Study Design:** Descriptive Cross-sectional study. **Setting:** Department of Obstetrics and Gynecology, GMMMC Teaching Hospital, Sukkur, Pakistan. **Period:** June 2024 to May 2025. **Methods:** All clinically or ultrasonographically suspected cases with histopathological confirmation of gestational trophoblastic disease were included. Unconfirmed cases, non-gestational trophoblastic tumors, and records with insufficient data were excluded. Data were collected on a structured proforma and analyzed using IBM SPSS version 26. Frequency was calculated from the total obstetric workload and reported with a 95% confidence interval. **Results:** Among 4,865 obstetric patients, gestational trophoblastic disease was diagnosed in 68 women, giving a frequency of 1.40% (95% CI: 1.10-1.77), equivalent to approximately 1 in 71 obstetric patients. The mean age was 26.7 ± 5.4 years. Most patients were 20-30 years of age (61.8%) and 55.9% were multigravida. Complete hydatidiform mole was the predominant diagnosis (67.6%), followed by partial hydatidiform mole (25.0%) and gestational trophoblastic neoplasia (7.4%). Vaginal bleeding was the commonest presentation (89.7%). A snowstorm appearance on ultrasonography was noted in 64.7% of cases. Suction evacuation was performed in 92.6% of patients; three women received methotrexate-based chemotherapy and two underwent hysterectomy. No maternal death was recorded. **Conclusion:** The frequency of gestational trophoblastic disease at GMMMC Teaching Hospital, Sukkur was 1.40%. Early ultrasound assessment, routine histopathological confirmation, timely uterine evacuation, and documented beta-human chorionic gonadotropin surveillance are essential for safe management and follow-up.

Key words: beta-human Chorionic Gonadotropin, Gestational Trophoblastic Disease, Hydatidiform Mole, Molar Pregnancy, Pakistan, Suction Evacuation.

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INTRODUCTION

Gestational trophoblastic disease (GTD) comprises a spectrum of pregnancy-related disorders caused by abnormal trophoblastic proliferation. It includes complete hydatidiform mole, partial hydatidiform mole, and gestational trophoblastic neoplasia (GTN), which ranges from invasive mole to choriocarcinoma and other rare malignant forms.[1-5] Although uncommon, GTD is highly curable when recognized early, evacuated appropriately, and followed with serial beta-human chorionic gonadotropin surveillance.[2-6]

The presentation of GTD has changed with increased availability of early pregnancy ultrasonography. Some women still present with vaginal bleeding, excessive vomiting, anemia, uterine size discrepancy, abdominal pain, passage of vesicles, or early preeclampsia, whereas others are detected before classic symptoms develop.[2-6] Histopathological examination remains important because ultrasound alone may not reliably differentiate complete and partial mole, and persistent trophoblastic activity may become evident only during follow-up after evacuation.[7-10]

The reported frequency of GTD varies between regions and also depends on the denominator used, such as pregnancies, deliveries, pathology specimens, or hospital admissions.[11-14] Recent registry and hospital-based studies continue to show a meaningful burden of molar pregnancy in low- and middle-income settings, including Pakistan.[11-14]

1. MBBS, PGR Obstetrics & Gynecology, Ghulam Muhammad Mahar Medical College (GMMMC) Teaching Hospital, Sukkur, Pakistan.
2. MBBS, FCPS, Professor& HOD Obstetrics & Gynecology, Ghulam Muhammad Mahar Medical College (GMMMC) Teaching, Hospital, Sukkur, Pakistan.

Correspondence Address:
Dr. Maria Abbasi
Department of Obstetrics & Gynecology, Ghulam Muhammad Mahar Medical College (GMMMC) Teaching Hospital, Sukkur, Pakistan.
maayaa@730gmail.com

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GMMMC Teaching Hospital, Sukkur receives a large referral obstetric workload from urban and rural areas, where delayed antenatal registration and limited early imaging may influence clinical presentation. Local frequency data are therefore useful for counseling, triage, pathology coordination, and follow-up planning. This study was conducted to determine the frequency of gestational trophoblastic disease at GMMMC Teaching Hospital, Sukkur.

METHODS

This descriptive cross-sectional study was conducted in the Department of Obstetrics and Gynecology, GMMMC Teaching Hospital, Sukkur, Pakistan, from June 2024 to May 2025. The hospital is a tertiary care teaching center receiving both direct admissions and referred obstetric cases from urban and rural areas. Ethical approval was obtained from the Ethical Review Committee (Ref: 563 GMMC/SUK/OBG).

All women with clinically or ultrasonographically suspected gestational trophoblastic disease who had histopathological confirmation were included. Unconfirmed cases, non-gestational trophoblastic tumors, and records with insufficient data were excluded. Non-probability consecutive sampling was used. The denominator for frequency estimation was the total number of obstetric patients assessed during the study period (n = 4,865). The final sample comprised 68 histopathology-proven GTD cases.

Clinical information was collected on a structured proforma from admission notes, imaging reports, operative records, pathology documentation, and discharge records. Variables included age, parity, presenting symptoms, uterine size, hemodynamic status, ultrasound findings, serum beta-human chorionic gonadotropin at presentation where available, histopathological diagnosis, and immediate management.

Pelvic ultrasonography was performed by transabdominal and/or transvaginal approach. Evacuated tissue was submitted for histopathology and classified as complete hydatidiform mole, partial hydatidiform mole, or gestational trophoblastic neoplasia. Suction evacuation was the preferred treatment for women wishing to preserve fertility. Hysterectomy was reserved for selected cases with clinical indications and completed family. Patients with gestational trophoblastic neoplasia were managed according to unit protocol, with referral and methotrexate-based chemotherapy for low-risk disease. Counseling for serial beta-human chorionic gonadotropin surveillance and contraception was routinely provided.[3,4,6,15,16]

Data were analyzed using IBM SPSS version 26. Quantitative variables are presented as mean ± SD, whereas categorical variables are shown as frequencies and percentages. Frequency was calculated as the number of histopathology-confirmed GTD cases divided by the total obstetric workload and was reported with a 95% confidence interval.

RESULTS

Among 4,865 obstetric patients seen during the study period, 68 were diagnosed with gestational trophoblastic disease, giving a frequency of 1.40% (95% CI: 1.10-1.77), equivalent to approximately 1 in 71 obstetric patients. Mean age was 26.7 ± 5.4 years. The commonest age group was 20-30 years (61.8%), and 55.9% were multigravida (Table-I).

Complete hydatidiform mole accounted for 46 cases (67.6%), partial hydatidiform mole for 17 cases (25.0%), and gestational trophoblastic neoplasia for 5 cases (7.4%) (Table-I). Vaginal bleeding was the leading clinical presentation, followed by hyperemesis and abdominal pain. A classic snowstorm appearance was documented in 64.7% of cases and theca lutein cysts in 17.6% (Table-II).

Management was predominantly uterine suction evacuation, performed in 63 women (92.6%). Three women with gestational trophoblastic neoplasia required methotrexate-based chemotherapy, whereas hysterectomy was performed in two selected women because of clinical indications and completed family (Table-III). No maternal death was recorded during the study period. No case was included without histopathological confirmation, ensuring diagnostic consistency across the study sample.

TABLE-I

Age, parity, and disease spectrum of gestational trophoblastic disease cases (n = 68).

Variable	n	%
Age <20 years	8	11.8
Age 20-30 years	42	61.8
Age >30 years	18	26.5
Primigravida	30	44.1
Multigravida	38	55.9
Complete hydatidiform mole	46	67.6
Partial hydatidiform mole	17	25.0
Gestational trophoblastic neoplasia	5	7.4

Clinical presentation and ultrasound findings (n = 68).

TABLE-II

Variable	n	%
Vaginal bleeding	61	89.7
Hyperemesis	31	45.6
Abdominal pain	21	30.9
Uterus larger than dates	14	20.6
Passage of vesicles	10	14.7
Early preeclampsia	6	8.8
Snowstorm appearance on ultrasound	44	64.7
Theca lutein cysts	12	17.6

TABLE-III

Management and summary statistics.

Parameter	Value
Total obstetric patients evaluated	4,865
Gestational trophoblastic disease cases	68
Frequency of gestational trophoblastic disease	1.40% (95% CI: 1.10-1.77)
Mean age (years)	26.7 ± 5.4
Suction evacuation	63 (92.6%)
Methotrexate-based chemotherapy	3 (4.4%)
Hysterectomy	2 (2.9%)
Maternal deaths	0

DISCUSSION

This study found that the frequency of gestational trophoblastic disease at GMMMC Teaching Hospital, Sukkur was 1.40%, or approximately 1 in 71 obstetric patients. The finding indicates that GTD remains an important obstetric condition in this tertiary care setting. The rate is comparable with hospital-based reports from referral centers, although direct comparison between studies should be made cautiously because different denominators and case ascertainment methods are used.[11-14] Hospital-based data are particularly useful for service planning because tertiary centers often receive complicated and referred cases.

Complete hydatidiform mole was the commonest subtype in the present study, whereas vaginal bleeding was the leading clinical presentation. These findings are consistent with the classical clinical profile of molar pregnancy and support the need for a high index of suspicion in early pregnancy bleeding.[2-6] Although extremes of maternal age are recognized risk modifiers, the clustering of cases in women aged 20-30 years in this series may reflect the underlying pregnancy distribution in the local reproductive-age population.[2,4,11,14]

The findings also underline the importance of correlating ultrasound with histopathology. Although a snowstorm pattern was common, recent evidence shows that ultrasound and routine morphology may be insufficient for exact subclassification in every case, particularly for partial moles that can mimic non-molar pregnancy loss.[7-9,17-18] Therefore, routine submission of evacuated tissue for histopathological examination is important, especially in settings where follow-up may be inconsistent.

From a management perspective, suction evacuation remained the mainstay of treatment, and most women received fertility-preserving care. Methotrexate-based chemotherapy was used for selected low-risk GTN cases according to unit practice, while hysterectomy was limited to women with clinical indications and completed family. Current recommendations emphasize standardized protocols, beta-human chorionic gonadotropin surveillance, contraception during follow-up, and timely referral for persistent or metastatic disease.[3,6,10,15,16,19-22]

For local practice, improving discharge instructions, recall systems, and a GTD follow-up registry may reduce delays and improve completion of surveillance. Management of GTD is not limited

to uterine evacuation; it requires a documented pathway from suspicion to confirmation, treatment, counseling, and follow-up. Effective liaison between emergency obstetric care, ultrasound services, operating theater teams, pathology, and follow-up clinics is therefore essential.

The limitations of this study include its single-institution design and reliance on available hospital records. Advanced ancillary tests such as p57 immunohistochemistry and short tandem repeat genotyping were not available for diagnostically difficult cases. However, the study provides recent institutional data from a large referral center and identifies practical areas for service improvement, including early ultrasound access, routine histopathology, and organized beta-human chorionic gonadotropin surveillance.[7,8,17,21-23]

CONCLUSION

The frequency of gestational trophoblastic disease at GMMMC Teaching Hospital, Sukkur was 1.40%. Complete hydatidiform mole was the predominant subtype, and vaginal bleeding was the commonest presentation. Early ultrasound assessment, histopathological confirmation, timely uterine evacuation, and structured beta-human chorionic gonadotropin follow-up are important for safe diagnosis, treatment, and surveillance.

ETHICAL APPROVAL

Ethical approval was obtained from the Ethical Review Committee (Ref: 563 GMMC/SUK/OBG).

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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AUTHORSHIP AND CONTRIBUTION DECLARATION	
1	**Maria Abbasi:** Study design, data collection, drafting.
2	**Safia Maqsood:** Supervision, methodology, critical revision.