# A STUDY OF GESTATIONAL TROPHOBLASTIC DISEASE

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## ABSTRACT

***Objective:*** To study the frequency, type of mole and follow –up of patients of gestational trophoblastic disease.

***Study Design:***Descriptive study.

***Setting and Duration:*** Military Hospital Rawalpindi (Tertiary Care hospital) from Jan 2001 to Dec 2006.

***Patients and Method:*** Ninety Patients both primigravida and multigravida were recruited by convenience sampling. They did not have any associated disease. The frequency regarding age, parity, blood group and antecedent pregnancy was calculated. They were managed initially by suction curettage ad later either expectantly or actively. Type of mole was confirmed by histopathology report. Follow-up of these patients was done by clinical symptoms, β-hCG level, x-ray chest and ultrasound abdomen and pelvis.

***Results:*** GTD included 31.11% patients aged <40 years and 68.88% patients aged >40 years. 55.55% of patients had blood group O and only 33.33% patient with other blood groups. In 64.44% patients previous pregnancy was miscarriage while only 6.66% patients had term pregnancy before. 77.77% patients presented with vaginal bleeding, while cough, gastro-intestinal symptoms and hemorrhage included 4.44% and 5.55% patients respectively. The serum β-hCG level dropped to <10,000 U/L in 65.55% patients within 6 months while 34.44% patients had persistently raised serum β -hCG level. Histopathological reports of 80% patient revealed complete mole while 20% patients had partial mole. Frequency of malignancy was found mostly in patients of complete mole. Chemotherapy was given to 38.88% patients among them 24.44% treated with single agent and 14.44% patients were given multi-drug therapy.

***Conclusion:*** GTD is more common in multigravida than primigravida. High frequency was observed in extremes of reproductive life and with blood group O. Irregular vaginal bleeding is the most common clinical feature. The frequency of complete mole is more than partial mole.

**Keywords:** Gestational troproblastic disease, hysterectomy, chemotherapy.

## INTRODUCTION

The abnormal proliferation of gestational trophoblastic tissue forms a spectrum of disease usually from benign partial hydatidiform mole to highly malignant choriocarcinoma and placental site trophoblastic tumor[1-3]. The incidence of GTD is 0.6-2.3 per 1000 pregnancies while choriocarcinoma has on incidence of 0.2 to 2.0 per 20,000 pregnancies. The incidence of GTD is twice as high in Korea and Japan[1,3]. The relative risk of hydatidiform mole is highest in pregnancies at the extremes of the reproductive age with a modest increase in teenagers (1.3 fold) and 3 fold increase relatives those aged 40 and over[1-6]. Complete hydatidiform mole is diploid and entirely androgenic in origin. A partial mole is usually triploid with one maternal and two paternal haploid sets [7-9]. Persistent trophoblastic disease or malignant complications are much more common with a complete molar pregnancy than with a partial hydatidiform mole. The clinical features of GTD include irregular first trimester vaginal bleeding, uterus larger for dates, pain from benign theca lutein cyst, vaginal passage of grape like vesicles and exaggerated symptoms of pregnancy like hyperemesis, hyperthyroidism[1,2,11,12]. Early investigations directed for disease assessment include baseline investigations, hCG quantitative levels thyroid functions test and pelvic and abdominal ultrasound scan for evidence of an invasive mole and possible metastatic disease. Chest radiograph and CT scan should be considered if pulmonary symptom persists. CT scan and MRI brain may be required. CSF ratio for hCG

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greater than 1:60 is strongly suggestive of occult cerebral metastasis[1,2,13,14].

Risk of GTD include haemorrhage, persistent trophoblastic disease, malignant changes, psychological problems related to loss of pregnancy and need for follow up of persistent or malignant disease. The management of complete and partial mole is different. Suction curettage is the method of choice for uterine evacuation of all complete molar pregnancies. Partial molar pregnancy that is recognized before uterine evacuation, suction curettage is method of choice but when pregnancy is more advanced and the size of fetal parts may reduce the chance of complete suction evacuation medical termination can be used[1,6,7,15,16].

The aims of follow up after complete uterine evacuation are to confirm successful treatment and to identify woman with persistent or malignant GTD who may require adjuvant chemotherapy or surgery at an early stage. Persistent clinical symptoms particularly vaginal bleeding and continuing elevation of serum hCG are the main indicators of residual disease. The approach to follow up and criteria for initiating chemotherapy are based on regional or national registries that involve experienced specialist oncologist. The WHO scoring system uses a point score for different prognostic indicators, such as the woman age, hCG level, ABO blood group of both partners and the number and site of metastasis, allowing the differentiation of women with low risk disease from woman with high risk disease. In subsequent pregnancy after chemotherapy for GTD an ultra sound scan should be performed at 8 weeks, and 14 weeks gestation. The risk of further GTD is 1.4% to 2.4%. Monitoring of hCG levels should be performed 6 weeks and 3 months after delivery[17-20]. The present study was aimed to fined the frequency, type of mole and follow–up of patients of gestational trophoblastic disease

## PATIENTS AND METHODS

A descriptive study was conducted at MH Rawalpindi from the period of 1 Jan 2001 to 31 Dec 2006. Patients were recruited by convenience sampling. All patients were treated as indoor cases. Woman with molar pregnancy including both primigravida and multigravida were included in the study. Patients with fibroid uterus and any other medical illness were excluded.

A detailed history was taken and obstetrical examination was performed at the time of admission. Abdominal examination was performed and size of uterus was assessed. A speculum and vaginal examination was done and amount of bleeding and passage of vesicles was assessed. Ultrasound was done in OPD and snow-storm appearance confirmed the molar pregnancy. The diagnosis was confirmed from detailed history, examination and ultrasound finding.

Routine investigations included a blood complete picture, grouping, urine examination and X-ray chest. The specific investigation was serum β-hCG level which was found to be raised in all the patients studied. Blood was arranged and suction curettage was done in operation theatre. Post operatively patients were managed by follow-up clinical features, ultrasound abdomen/pelvis and serial β-hCG level.

The patients with persistent vaginal bleeding, haemorrhage, chest symptoms, gastrointestinal effects, rising β-hCG level and plateau BHCC levels were given either single or multiagent chemotherapy.

Histospathology report confirmed molar pregnancy either partial or complete in all the cases. 4 out of 90 patients developed choriocarcianoma, which were managed with multiagent chemotherapy. Four patients were suspected to have invasive mole and presented with repeated haemorrhage. They were managed surgically by hysterectomy.

Data was analyzed using SPSS version 10.0. Descriptive statistics frequencies, percentage, mean and standard deviation were used to describe the data. The data were presented as tables and figures.

## RESULTS

The study group consisted of 90 patients 10 (11.11%) primigravida and 80 (88.88%) multigravida. Twenty eight (31.11%) patients

were at age less than 40 years and 62 (68.89%) patients were of more than 40 year age.

The frequency of patients with blood group O was 50 (5.5.56%) and with other blood group was 40 (44.44%) in number. Patients with previous molar pregnancy were 30 (33.33%). Previous abortion was observed in 58 (64.44%) patients while only 6 (6.66%) patients underwent term pregnancy previously. The most common follow up feature of patients with GTD was vaginal bleeding involving 70 (77.78%) patients while symptoms of cough and gastrointestinal effects were present in 6 (6.67%) and 4 (4.44%) patients respectively. The symptoms of hemorrhage included only 5 (5.56%) patients (Table-2). The management of the patients with GTD depends on the regular follow up including serum hCG level. The no of patients in which serum hCG dropped to <10,000 IU/L were 59 (65.56%) while 31 (34.44%) patients had hCG level >10,000 IU/L in 6 months(Table-3). The percentage of the patients with complete mole after histopathology report was high affecting 72 (80%) of patients while the percentage of partial mole was low involving 18 (20%) patients (Table-4).

Chemotherapy was given to 35 (38.89%) patients among them 22 (24.44%) patients were given single agent therapy while 13 (14.44%) patients were treated with multidrug therapy. Out of 35 (38.88%) patients 31 were treated medically while only 4 underwent surgical treatment. The frequency of choriocarcinoma and invasive mole in total no of patients was 4 (4.44%) each. Frequency of malignancy was 8.8 % complete mole and no malignant change was found in patients of partial mole (Table-5).

**Table 1: Frequency of GTD**

| Ser | Factor | | No of Patients | % age | P/Value |
|---|---|---|---|---|---|
| 1. | Age | < 40 years | 28 | 31.15% | > .05 |
| | | > 40 Years | 62 | 66.88% | |
| 2. | Parity | Primigravida | 10 | 11.11% | > .05 |
| | | Multigravida | 80 | 88.88% | |
| 3. | Blood Gp | O | 50 | 55.55% | > .05 |
| | | A&B or AB | 40 | 44.44% | |
| 4. | Antecedent | Molar | 30 | 33.33% | > .05 |
| | pregnancy | Abortion | 58 | 64.44% | < .05 |
| | | Term | 6 | 6.66% | |

**Table 2: Follow Up Clinical Features**

| Ser | Clinical Feature | No of Patients | Percentage | P/Value |
|---|---|---|---|---|
| 1. | Irregular vaginal bleeding | 70 | 77.77% | >.05 |
| 2. | Cough | 6 | 6.6% | <.05 |
| 3. | Hemorrhage | 5 | 5.55% | <.05 |
| 4. | GI Effects | 4 | 4.44% | <.05 |
| 5. | CNS Effect | Nil | 0% | - |

**Table 3: Follow Up βhCG Level within 6 Months**

| Ser | β-hCG level | No of Patients | %age | P/Value |
|---|---|---|---|---|
| 1. | < 10, OOO IU/L | 59 | 65.55% | >.05 |
| 2. | > 10, OOO IU/L | 31 | 34.44% | >.05 |

**Table 4: Histopathological Results**

| Ser | Type of Mole | No of Patients | %age | P/Value |
|---|---|---|---|---|
| 1. | Partial Mole | 18 | 20% | >.05 |
| 2. | Complete Mole | 72 | 80% | >.05 |

**Table 5: Fequency of Malignancy in Complete mole**

| Ser | Type of Neoplasia | No of Patients | %age | P/Value |
|---|---|---|---|---|
| 1. | Choriocarcinoma | 04 | 4.44% | <0.05 |
| 2. | Invasive Mole | 04 | 4.44% | <0.05 |

## DISCUSSION

The spectrum of GTD needs to be diagnosed by vigilant clinical approach and pertinent investigations. The common risk factors of developing GTD were age i.e. more than 40 years in 62 (68.88%) patients, previous molar pregnancy and previous abortion were consistent with study mentioned in High Risk Pregnancy and study of Semer[1,3].

The aims of follow up were successful treatment and to identify the patients requiring chemotherapy or surgical treatment. The most common follow up feature observed was irregular vaginal bleeding 77.7%. The serum level of hCG was more than 10,000 IU/L in 31 (34.44%) patients which was comparable to the study of Rose and Curry. Histopathological report revealing complete mole was seen in 72 (80%)[1,4,18]. Percentage of patients treated either by chemotherapy or surgical treatment was similar to study in High Risk pregnancy and study of Hancock [1,19].

The frequency of invasive form of GTD (choriocarcinoma and invasive mole) was 4.44% each in our study group which was more than study mentioned in High Risk Pregnancy group which is 0.3-2%.

Same study was conducted at a tertiary care hospital of Sindh by Kheshkheli and her colleagues which showed increased risk of trophoblastic disease in women which multiparity, blood group O and previous molar pregnancy. The study also showed increased frequency of complete mole as compared to partial mole and more need of chemotherapy in high risk group.

## CONCLUSION

GTD is more common in multigravida than primigravida. The frequency increases in extremes of reproductive life and with blood group O. Irregular vaginal bleeding is the most common clinical feature. The frequency of complete mole is more than partial mole.

High index of suspicion is mandatory to diagnose Hydatidiform mole. Early detection, diagnosis and treatment can result in increased patient surveillance with less complications and less need of chemotherapy. Proper education of patient along with regular follow-up can prevent complications and almost 100% cure. Patients should be managed in tertiary care hospitals with multidisciplinary approach.

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