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ORIGINAL ARTICLE

Epidemiology of Gestational Trophoblastic Disease at a Tertiary Hospital in India over Last 8 Years

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ABSTRACT

The incidence of gestational trophoblastic disease (GTD) varies all around the world, highest being in Asian countries. This study provides a hospital-based incidence of GTD in a tertiary institution.

Keywords: Gestational trophoblastic disease, Gestational trophoblastic neoplasia, Methotrexate.

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INTRODUCTION

For the past 50 years, advances in the diagnosis and management of GTD has developed to a point where there are low morbidity and mortality when the principles of therapy are applied.[1] This study was undertaken to describe the hospital-based prevalence rate of GTD and to discuss the changing trends in its management in the past 8 years in the hope of continuously providing improved care for women afflicted with this condition in our part of India.

AIM

To study the epidemiology of GTD and management of same in a tertiary care teaching hospital in Kerala, India from January 2007 to June 2015.

MATERIALS AND METHODS

Retrospective Cohort Study

Case record of 620 cases of GTD during the study period was analyzed in respect to demographic profile, mode of presentation, diagnosis, management. There were 151 cases diagnosed as (GTN) on follow-up. Comparative analysis of their incidence using Chi-square test was done.

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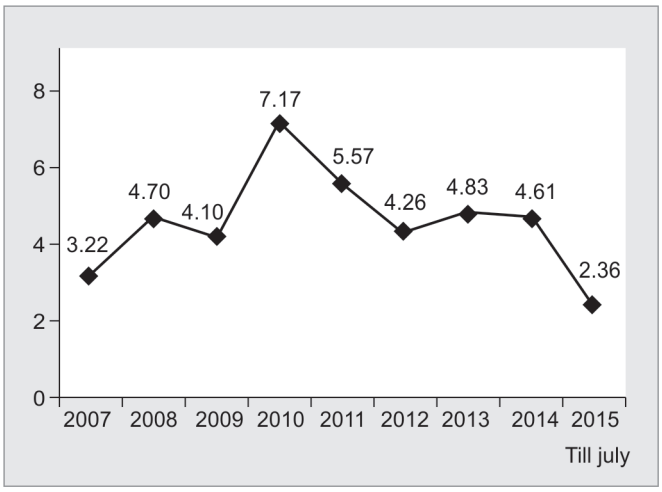
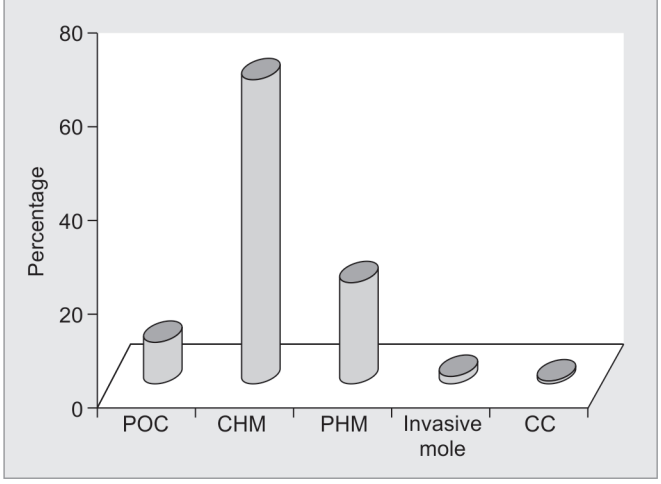
RESULTS

The incidence of GTD in our institution ranged from 3.22-2.36/1000 deliveries over the years of study. There was a peak in incidence in 2010–7.17/1000 deliveries (Graph 1). Ours being a tertiary referral center, has more than its share of GTD.

The cases ranged from uncomplicated molar pregnancies to nonmetastatic and few metastatic tumors that required more aggressive multimodality treatment (Graph 2).



Graph 1: Incidence of GTD/1000 deliveries



Graph 2: Diagnosis

Hydatidiform Mole

The Demographic profile of women with hydatidiform mole, in our part of India, shows a mean age of 24.65 years (range 16–45 years) (Table 1). The majority were primigravidas (48.9%). However, there has been a statistically significant change in gestational age at diagnosis (p = 0.0001) and early ultrasound diagnosis before the onset of symptoms (p = 0.00001) (Graphs 3 and 4) over the years.

The most common presenting symptom was vaginal bleeding (78.1%), hyperemesis (19.4%), thyrotoxicosis (4.1%) and pain abdomen (3.5%) and the diagnosis was confirmed with ultrasonography. After diagnosis, the patients underwent suction evacuation (84.5%), dilatation and evacuation (14.5%) and hysterectomy–5 (0.8%).

Table 1: Clinical profile of patients with GTN (n = 151)

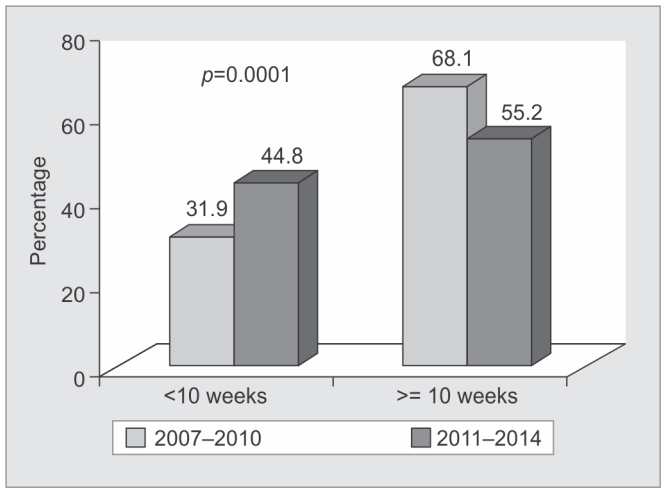
Characteristics	*Mean*	*Range*
Age (years)	25.3	17–42
Parity		
Pretreatment beta hCG (miu/mL)		
<1 lakh,	75	49.7%
>1lakh	76	50.3%
Antecedent pregnancy		
Hydatidiform mole	130	86.1%
Abortion	19	12.6%
Term delivery	2	1.3%
Stage		
I	140	92.7%
II	1	1.5%
III	2	3
IV	2	2.8%
Metastatic site		
Lung	2	3%
Vagina	2	3%
Brain	Nil	-
Others (GIT, bladder)	Nil	-
Risk score		
<7	140	92.7%
>7	11	7.3%

Serum beta hCG was monitored weekly until normal since it is still the most sensitive marker of disease progression to malignancy. 469 (75.64%) patients had normal beta-hCG regression on follow-up.

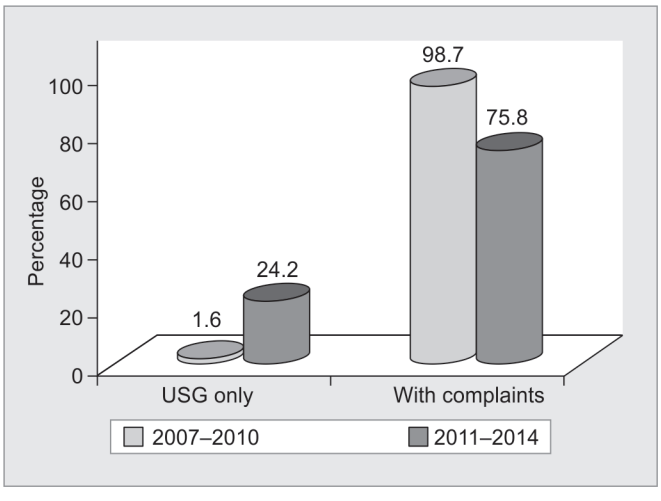
Gestational Trophoblastic Neoplasia

The prevalence of GTN in our series ranged from 0.2–0.5/1000 deliveries over the years with a peak in 2011 and 2013 (Graph 5). High prevalence could be due to tertiary referral center status. There were 151/620 (24.35%) who were diagnosed with GTN on follow up over the period of study.

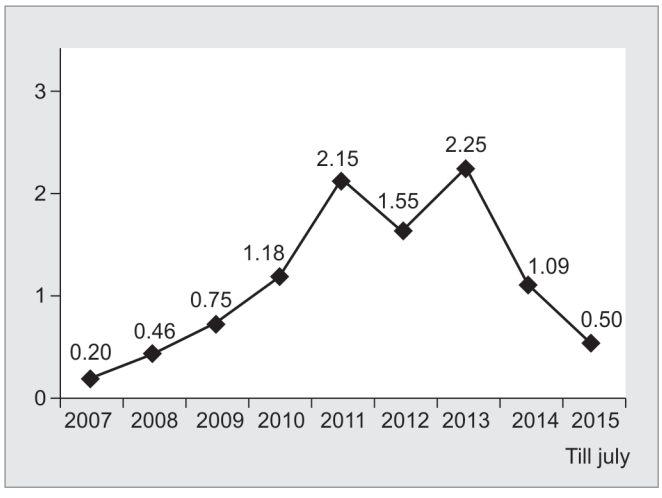
Among the patients receiving MTX, three patients were changed to actinomycin D because of adverse reaction to MTX. For those who were switched to actinomycin D, complete remission was seen (Table 2). There were 7 cases of drug resistance and were treated with hysterectomy (2) followed by multiagent and (5) cases of MTX resistance were given multiagent with complete remission.



Graph 3: Comparison of GA at diagnosis



Graph 4: Comparison of diagnosis



Graph 5: Incidence of GTN/ 1000 deliveries

Table 2: GTN-treatment response

Chemo-therapy	*n = 151*	*No of cycles for complete remission (n = 144)*			*Drug resistance (n = 7)*	*Remission rate %*
		3–5	5–7	>7		
MTX/Folinic acid	134 (88.74%)	43	51	25	5	96.26
Actinomycin D	10 (6.62%)	3	2	5		6.62
MTX/Folinic acid Act-D	3	1	0	2	–	
EMACO	4	0	0	2	2	

Hysterectomy (n = 5)

Two cases were of invasive mole with massive intraperitoneal bleed while on multiagent regimen.

Two elderly patients (>45 years) in whom mole in situ hysterectomy was done. One case was resistant to multiagent chemotherapy.

Recurrent Mole

There were 28/620 (4.4%) cases of recurrent moles. One patient had a twice recurrent mole.

DISCUSSION

Different centers all over the world report contrasting data on epidemiology as well as response to therapy for GTD. In developed countries, scientific grants from both the government and private sectors allow scientists and clinicians to include their patients in clinical trials to evaluate the efficacy, safety, and tolerability of different treatment protocols. However, for a less developed country like India, treatment outcome data and population-based incidence are difficult to establish because documentation and management of patients, mostly coming from low socioeconomic class, are usually undertaken with the less-than-ideal healthcare system and drug resources.[2]

The demographic profile of Indian women in our study remains the same throughout the period except that the diagnosis of Molar pregnancy is now being made early (p = 0.0001) with ultrasound in asymptomatic women (p = 0.00001). 75.64% of our women had normal Beta hCG regression according to our protocol on follow-up.

About 24.35% developed GTN, 92.7% being stage I low risk. MTX was the single agent chemotherapy given in 88.74% with a remission rate of 96.26% (129/134)[3] (Table 1).

Current diagnostic methods facilitate the identification of the exact extent of the disease. We found metastasis in 2.7% (4/151) of our low-risk GTN. Hence patients with GTN require careful evaluation.

According to our experience, which is similar to that of other authors, MTX/folinic acid or actinomycin D should be the primary treatment of nonmetastatic or metastatic low-risk GTN.[2] The remission rates are high, and toxicity is low. Pulsed dactinomycin is another useful alternative as the response is faster with less morbidity.[3]

Hysterectomy has a role in selected patients, including those with the drug-resistant disease, complications of the disease such as bleeding and as primary treatment in selected few.[4]

CONCLUSION

Current outcomes of treatment for women in this part of India appear much improved. This might be due to prompt recognition of disease, initial management and appropriate referral of these patients to the specialty center. Standardization of data reporting should be done for all hospitals. Although treatment protocols exist, a multidisciplinary approach to the problem and individualized care is necessary. We highly recommend collaboration with international colleagues in terms of conducting Randomized Control Trials to be able to identify the most suitable protocol for our patients more so, for those who developed recurrent moles.

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